PAPER 83-28

COPPER DEPOSITS AND OCCURRENCES IN THE NORTH SHORE REGION OF LAKE HURON, ONTARIO

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ERRATA

In Appendices 1 and 2 for deposits

41-111A TEMAGAMI CHALCOPYRITE ZONE and
41-111B TEMAGAMI Cu-Ni-Co ZONES, the longitude should read "080 02 30"

The size ranges for deposits listed in the microfiche in Appendices 1 and 2 should be corrected as follows:

CUFILE Accession No.	Deposit Name	Size (TONNES CONTAINED Cu)
41-35	CHICAGO MINE	0-1,000
41-37	COPPER CLIFF MINE	10,000-100,000
41-39	COPPER CLIFF NO. 2 MINE	10,000-100,000
41-46	GERTRUDE MINE	0-1,000
41-49	McVITTIE-GRAHAM	1,000-10,000
41-54	VERMILION MINE	0-1,000
41-47C	KIDD COPPER MINE-HOWLAND PIT	0-1,000
41-47D*	KIDD COPPER MINE-Z-ZONE	0-1,000
41-93*	STURDY MINES PROPERTY	0-1,000
41-94*	VERMILION LAKE MINE	10,000-100,000
41-102	WHISTLE	1,000-10,000
41-121	BALD DOME	1,000-10,000
41-188	MILGATE	1,000-10,000
41-192	COPPER PRINCE MINE	1,000-10,000
41-254	PANCAKE LAKE	0-1,000
41-425*	TRIBAG-SOUTH BRECCIA	0-1,000
41-889	COPPERCORP MINE-C-ZONE	1,000-10,000

*Appendix 2 only

[1] These data in fixed-length digital records, are also available as Open File 1039; A computer tape of PEARSONFILE.

COPPER DEPOSITS AND OCCURRENCES IN THE NORTH SHORE REGION OF LAKE HURON, ONTARIO

Abstract

This report provides a comprehensive computer-processible inventory which includes location, reserves and production, geological setting and references for 677 known copper deposits and occurrences in the north shore region of Lake Huron. Data in this inventory provide a base for more extensive metallogenic studies of copper deposits in the region as well as aid companies and individuals conducting exploration in the region.

Résumé

Ce rapport consiste en un inventaire informatisable étendu qui donne des informations pertinentes sur la localisation, les réserves et la production, leur provenance et les références appropriées sur 677 gisements et venues cuprifères connus situés sur la rive nord du lac Huron. Les données apparaissant à cet inventaire se révèlent une référence de base pour d'éventuelles études plus poussées sur les gisements cuprifères dans cette région et une aide certaine pour les compagnies ou pour les personnes intéressées à l'exploration de cette zone.

INTRODUCTION

This report is part of a more extensive compilation of computer processible index level data on copper deposits and occurrences in Canada called "CUFILE" (see Carrière et al., 1981). Data for this present release were compiled in conjunction with a regional metallogenic study of copper deposits in the north shore region of Lake Huron (NTS 41I, J, K, N) by Pearson (1978, 1979, 1980). Included in this inventory are deposits in which copper is a major commodity of economic or potentially economic importance, as well as occurrences in which copper is a minor commodity either as a byproduct or with no apparent economic potential.

CANMINDEX (see Picklyk et al., 1978) was used as the basic computer file. Reserve and production data were coded using the CUFILE format proposed by R.V. Kirkham and designed by R.M. Laramée (see Carrière et al., 1981). Only limited published reserve and production data are available for the important Ni-Cu deposits of the Sudbury Nickel Irruptive. An additional file, the "KQP-FILE", was developed by W.N. Pearson and designed by R.M. Laramée. This file contains additional geological information, specifically about host rock(s), ore and gangue minerals, alteration, vein type, attitude of mineralized body, and relationship (if applicable) to Nipissing Diabase intrusions. The most useful data from these three files have been combined and reformated into a new file called "PEARSONFILE". This composite file has been used to generate the data for the copper distribution maps, tables, indices, listings, data transformations and calculations; the listings and maps in this report have been produced by computers and programmable, mechanical plotters where feasible.

Sources of information for the files were largely the National Mineral Inventory Files (NMI) of the Mineral Policy Sector, Department of Energy, Mines and Resources, Ottawa; geological reports of the Geological Survey of Canada and Ontario Geological Survey and its predecessors; Cu-commodity files of the Geological Survey of Canada; Shklanka (1969); and personal observations of W.N. Pearson.

W.N. Pearson with assistance from R.E. Bretzlaff and J.J. Carrière completed the initial manual compilation and plots of data. W.N. Pearson field checked 120 of the 677 deposits and occurrences. W.N. Pearson and R.E. Bretzlaff coded the data. W.N. Pearson entered data for KQP-FILE and J.J. Carrière assisted with entry of data for CANMINDEX and CUFILE. R.E. Bretzlaff, assisted by W.N. Pearson edited the computer file. J.J. Carrière was responsible for the final layout and editing of the Cu-commodity data plotted on the maps.

Acknowledgments

R.V. Kirkham initiated and supervised the project. R.M. Laramée did extensive computer programming for construction, testing, computer "screen editing", data transmission, and revision of files and for obtaining a variety of retrievals and plots; his contributions were invaluable to the project. J.M. Shaw did the programming necessary for the final report production. K.W. Shewbridge, V. Matson, P. Mann, C. McCann, J. Gasper, D.F. Garson, and R.M. Laramée entered data into CANMINDEX and CUFILE, using an offline intelligent terminal.

D.F. Garson, R.V. Kirkham, R.M. Laramée, and W.D. Sinclair reviewed the manuscript and made many useful comments.

DESCRIPTION OF FILE

Figure 1 shows the output format of the records presented in this report. Each entry is explained below. Except for some entries that are unique to KQP-FILE, most are identical to those used in CUFILE. The listing for each copper deposit or occurrence will not necessarily contain an entry for each field because of the inapplicability of a field to a particular deposit or lack of sufficient data to complete the entry. Figure 2 gives a typical deposit listing.

Explanation for Figure 1

Occurrence or deposit identifier

This identifier comprises two numbers (e.g. 41-54) and is assigned to each copper occurrence in CUFILE. The first number gives the primary (NTS) (National Topographic System) quadrangle (e.g. NTS 41 in Fig. 2); the second number gives the unique accession number of an occurrence within a particular NTS area (e.g. 54 in Fig. 2).

Name (Alternate Name)

This is the name that the Indexed Mineral Deposit (IMD) has in the literature. If the deposit has more than one name, the most commonly used name is given first, and the alternative name(s) is in brackets. In cases where no commonly-used name exists the Township name or a geographical designation has been used.

Occurrence or deposit identifier

Name (Alternative name(s))
Commodity (Status)

NTS Latitude Longitude Geographic Location
Geological Province
Entity Coded Comment
CANMINDEX Number NMI Number

Copper Deposit Type
Copper Deposit Status
CANMINDEX Deposit Type
Geology

Remarks

KQP-FILE:
- Type
- Subtype
- Size
- Host
- Ore Minerals
- Gangue
- Alteration
- Vein type
- Attitude
- Relationship to Nipissing Diabase
- Source
- Comments

Production:
- Comments
- Reference

Reserve:
- Comments
- Reference

Map(s)

References

Figure 1. *Format of a PEARSONFILE listing.*

```
41-54

VERMILION MINE
CU(3) NI(3) PD(3) PT(3) AG(3) AU(3) SN(7) AS(7)

41/I/06  46 25 00   081 21 30   DENISON TP/ LOT 5-6 CON 4
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (NMI)
CANMINDEX NUMBER (008364)  NMI NUMBER (041/1/06/CU/002)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY IRRUPTIVE)

REMARKS (PRODUCTION 1905-1915/VERY HIGH PRECIOUS METAL
         VALUES)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (CHALCOPYRITE/PENTLANDITE/PYRITE/PYRRHOTITE/
           POLYDYMITE/SPERRYLITE/N. COPPER/N. GOLD/MILLERITE)
REL.TO NIP.DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (NMI)
COMMENTS (SPERRYLITE [PTAS2] FIRST FOUND HERE)

PRODUCTION:  1900       179 TONNES ORE
   10.000% CU  11.31G/T AU  137.14G/T AG
   COMMENTS (20-25% NI+CU/40Z PD&1.50Z PT/T)
   REFERENCE (NMI)
PRODUCTION:  1900 TO 1915      3,641 TONNES ORE
   6.890% CU  6.640% NI
   REFERENCE (NMI)

MAP(S) (GEOL 2170 ODM/GEOL 2119 ODM)

CARD,K.D. 1968
     GEOLOGY OF THE DENISON-WATERS AREA/ ODM GEOL REPT
     60/ PG 52
SHKLANKA,R. 1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 236 / *C*
BELL,R. 1891
     SUDBURY MINING DISTRICT / GSC ANN REPORT/ VOL 5
     PART F 1890-91 /PG 51-54
COLEMAN,A.P. 1905
     THE SUDBURY NICKEL REGION/ OBM ANN REPT / VOL 14
     PT 3 / PG 31 /81 / 140 / 153
DICKSON,C.W. 1904
     THE ORE DEPOSITS OF SUDBURY / TRANS AMER INST MIN
     ENG / VOL 34 FEB 1903 / PG 5 & 11& 30
PHEMISTER,T.C. 1926
     IGNEOUS ROCKS OF SUDBURY / ODM ANN REPT / VOL 34
     PT 8 1925 / PG 56
BURROWS,A.G. 1935
     SUDBURY NICKEL FIELD RESTUDIED / ODM ANN REPT /
     VOL 43 PT 2 1934/ PG 28
```

Figure 2. *Typical deposit listing.*

Commodity (Status)

Commodities are the economic or potentially economic elements or minerals present in the IMD. All commodities reported are entered together with their status as defined below (Picklyk et al., 1978):

1. Being Produced. Commodity is being extracted for sale.
2. Reserves, never produced. Reserves, or demonstrated resources, of the commodity are reported or can be calculated but the commodity has not yet been produced (i.e. three dimensional data plus grade).
3. Reserves, was produced. The commodity is no longer produced although there are known reserves or demonstrated resources.
4. Exhausted. The commodity is no longer produced and there are no known reserves or demonstrated resources.
5. Grade, two dimensions. Two dimensional data (e.g. length and width) and grade of the commodity are available[1] but not enough to calculate reserves.
6. Grade, one dimension. One dimensional data and grade (e.g. one drillhole).
7. Present. Commodity reported, but insufficient data are available to allow the status to be classified.
8. The commodity occurs at a producing mine or in a significant deposit, but it is not known whether it is being or will be extracted for sale.

NTS

The occurrence is located according to the National Topographic System – designated as follows: primary quadrangle 1:1 000 000 sheet (number)/1:250 000 sheet (letter)/1:50 000 sheet (number) for example 41/J/10.

Latitude and Longitude

Latitude and longitude of the IMD. The accuracy of latitude and longitude is dependent on the information available.

Geographical Location

Township(s) in which the IMD occurs.

[1] Available is used here to mean published or otherwise available in the public domain

Entity Coded

The entry defines each IMD as either Simple, Compound or Partial. Codes are as follows:

S Simple — A single body of mineralization.

C Compound — A mineral deposit where more than one discrete body of mineralization are present and for which the information cannot or need not be separated to refer to the individual zones. In this case the whole deposit is entered as one IMD and explanatory comments will be put in the REMARKS field, e.g. 2 quartz veins – 150 m apart.

P Partial — A part of a single mineral deposit where the total deposit is under two or more different managements or jurisdictions. The data cannot reasonably be combined.

The reason for this entry lies in the difficulty in rigidly applying any definition of a mineral deposit so that each entry (Indexed Mineral Deposit) corresponds exactly with the actual mineral deposit. Ideally, there would be this correspondence, and each IMD would be coded S. If neither of the other conditions (codes C or P) apply to the data available, all IMDs are coded S (after Picklyk et al., 1978, p. 19).

Comment

The object or point located (as defined by the latitude and longitude) and the source document are recorded in this field e.g. Shaft/NMI; Trench/GSC Map 1341A. If the object located is unknown, only the source document is recorded (after Picklyk et al., 1978, p. 20).

CANMINDEX Number

This is a unique eight digit number assigned to each IMD entered in CANMINDEX.

NMI Number

The National Mineral Inventory (NMI) number is a unique code assigned to each mineral property. The first six characters constitute the NTS BLOCK in which the IMD is located, the next two or three characters denote the principal economic commodity present, and the last three digits indicate the number assigned to the IMD (e.g. 041/I/06/CU/002).

Cu Deposit Type

Copper deposit type follows the classification in Table 1.

Table 1. Classification of copper deposits (modified after Kirkham, 1972)

Type	Inferred Genesis	Characteristics Metals	Examples
1. Magmatic nickel-copper or simply nickel-copper deposits	magmatic deposits associated with mafic and ultramafic igneous rocks	Ni,Cu(Co,Pt)	Sudbury district[1] Great Lakes Nickel, Giant Mascot
2. Carbonatite or alkaline complex deposits	"late stage" magmatic and/or magmatic-hydrothermal deposits associated with carbonatites and alkaline complexes	Cu(Ti,Fe,P_2O_5 Zr,Mo,etc.)	Palabora, South Africa
3. Volcanogenic polymetallic sulphide or exhalative deposits	volcanic-hydrothermal-exhalative	Cu,Zn(Pb,Au,Ag)	Noranda district, Bathurst district, Whalesback, Western Mines, Geneva Lake, Stralak, Pater Mine
4. Copper sulphide-native copper deposits in volcanic sequences	uncertain	Cu(Ag)	Keweenaw Peninsula, Coppermine River area, Mamainse Point
5. Contact metasomatic or skarn deposits	magmatic-hydrothermal	Cu(Fe,Mo,W,Zn, Au,Ag,etc.)	Gaspe Copper, Craigmont, Whitehorse Copper, Foster Township, Cobden River
6. Porphyry copper deposits	magmatic-hydrothermal	Cu,Mo(Au,Ag)	Bethlehem, Brenda, Granisle, Tribag (East Breccia), Jogran
7. Sedimentary or, alternatively, concordant and peneconcordant deposits in sedimentary sequences	sedimentary (includes aspects of diagenesis)	Cu(Mo,Co,Pb,Zn, Ag,V,U,etc.)	White Pine, Redstone, Dorchester, Desbarats, Stag Lake
8. Vein/replacement	mainly hydrothermal and magmatic-hydrothermal	Cu,Pb,Zn,Ag,Au As,Sb,etc.	Chibougamau district, Icon-Sullivan, Churchill, Bruce Mines
9. Unclassified	uncertain	varied	Minto, Williams Creek, Apsey Lake

[1] Underlined examples occur within the study area

Cu Deposit Status

Copper deposit status as chosen from the following catagories:

Occurrence

One or a combination of the following features characterize an occurrence:

a. no known work
b. limited mineralization
c. limited trenching
d. limited stripping
e. test pit(s)
f. blasting
g. shaft(s) (0-15 m deep)
h. geological survey(s)
i. geophysical survey(s) } only where conducted over mineralized zones
j. geochemical survey(s)
k. diamond drilling where minor mineralization exists.

Prospect

Any one of the following features characterize a prospect:

a. reasonably extensive diamond drilling which proves the presence of a mineralized zone(s)
b. extensive trenching, i.e. numerous trenches covering a large area of mineralization
c. a combination of several geophysical surveys and some trenching which indicates a definite mineralized zone, and/or
d. shaft(s) over 15 m deep.

Deposit with reserves

A deposit with known economic or subeconomic, well-defined or poorly defined reserves or demonstrated resources of 1000 tonnes of ore or more.

Producer or Past Producer

A deposit is considered a producer or past producer if it has produced at least 1000 tonnes of ore, or production and reserves total 1000 tonnes or more. A property with production and reserves of less than 1000 tonnes is considered a prospect.

CANMINDEX Deposit Type

The CANMINDEX deposit type is a broad classification designed to accomodate all types of metallic and industrial mineral deposits. The classification terms are outlined in Table 2. A two digit code is chosen from this table for the term which best reflects the dominant aspect of the deposit.

Geology

This is a free format statement indicating the character of the mineral deposit and the type of host rock(s).

Remarks

The remarks field adds additional data on the deposit. If the entity code is "C" or "P" the nature of the mineral deposit coded will be given (e.g. 4 ZONES/RESERVES ARE FOR MAIN ZONE).

[1] 1 metric tonne = 1.1023 short tons

Type

The copper deposit types as shown in Table 3 are the same as those in Table 1 except for the chalcocite-bornite-native copper deposits in the Mamainse Point area. These were classified by Kirkham (1972) as copper sulphide-native copper deposits in volcanic sequences; however, for the purposes of this study these deposits have been grouped in the vein/replacement category.

Subtype

Deposit subtypes are given in Table 3.

Size

Size indicates the total tonnes (i.e. metric tonnes[1]) of contained copper in the deposit. This represents a geological estimate of contained metal and does not necessarily constitute a reserve or demonstrated resource. The following size categories are used:

1) Greater than 10 000 000	tonnes contained Cu
2) 1 000 000 - 10 000 000	tonnes contained Cu
3) 100 000 - 1 000 000	tonnes contained Cu
4) 10 000 - 100 000	tonnes contained Cu
5) 1 000 - 10 000	tonnes contained Cu
6) 0 - 1 000	tonnes contained Cu

Size estimates have been made for the Ni-Cu deposits associated with Sudbury Irruptive even though only limited published production and reserve data are available for individual deposits.

Host

This category gives the geological unit/formation hosting the mineral deposit. In some cases more than one type of host is present and these are indicated in the order of importance. These are listed generally in the order of youngest (29) to oldest (1).

29) Alkalic-carbonatite complexes
28) Matic Intrusions-undifferentiated
27) Keweenawan sedimentary rocks
26) Keweenawan volcanic rocks
25) Keweenawan felsic intrusions
24) Keweenawan diabase
23) Keweenawan undifferentiated
22) Whitewater Group
21) Sudbury Nickel Irruptive and offsets
20) Nipissing Diabase
19) Bar River Formation
18) Gordon Lake Formation
17) Lorrain Formation
16) Gowganda Formation
15) Serpent Formation
14) Espanola Formation
13) Bruce Formation
12) Mississagi Formation
11) Pecors Formation
10) Ramsay Lake Formation
9) McKim Formation
8) Matinenda Formation
7) Huronian gabbro-anorthosite
6) Huronian volcanic rocks
5) Huronian undifferentiated
4) Archean granites
3) Archean metavolcanic rocks
2) Archean meta-sedimentary rocks
1) Archean undifferentiated

Table 2.[1] CANMINDEX deposit types (modified after Picklyk et al., 1978 and Carrière et al., 1981)

Deposit Type	Examples
01. Placer deposits	Klondike, Yukon; Elliot Lake, Ont.;[2] Nataskquan (beach sands), Que.
02. Laterite and other residual deposits	Banks Island (Ti, V), B.C.
03. Evaporites (gypsum, anhydrite, halite, etc.)	Sask. potash; Windsor gypsum, N.S.
04. More or less concordant deposits in volcanic rocks (includes discordant mineralization associated with conformable volcanogenic massive sulphides). Volcanogenic Cu-Zn deposits and Ni deposits in ultramafic flows will fall into this class.	Kidd Creek, Ont.; Millenbach, Que.; Western Mines, B.C.; Texmont, Ont.; Dumbarton, Man.; Pater Mine, Geneva Lake, Stralak, Ont.
05. More or less concordant deposits in sedimentary rocks.	South March, Ont.; Right's River, N.S.; Sullivan, B.C.; Silvermines, B.C.; Redstone, N.W.T.; Desbarats, Stag Lake, Ont.
06. Vein (-s; one or a few), faults, shear zones and replacements, exclusive of skarns.	Copper Rand – Chibougamau, Que.; Falconbridge main mine, Ont.; Gordon Lake, Ont.; Beaverlodge (U), Sask.; Cluff Lake (U), Sask.; Churchill Copper, B.C.; Opemiska, Que.; Nigadoo, N.B.; Bluebell, B.C.; Keno Hill, Yukon; Yellowknife, N.W.T.; Federal Zinc, Que.; Bruce Mines, Ont.
07. Stockwork, vein swarm, breccia pipe (to include volcanogenic alteration pipes if conformable massive sulphide is absent or negligible). Most porphyry deposits will fall into this class.	Bethlehem Copper, B.C.; Granisle, B.C.; Tribag, Ont.; Louvem, Que.; Britannia Mine, B.C.; Wilmar (Cochenour) granodiorite orebody (Au), Ont.
08. Collapse (solution) breccias and other breccias, mainly discordant, in carbonate rock	Robb Lake, B.C.; Strathcona Sound, N.W.T.; Pine Point, N.W.T.; Newfoundland Zinc, Nfld.
09. Skarn (Tactite) deposits.	Marmora, Ont.; Craigmont, B.C.; Gaspé Copper, Que.; Meat Cove, N.S.; Cantung, N.W.T.; Phoenix (Greenwood), B.C.; Foster Township, Cobden River, Ont.
10. Greisen deposits. This class will mainly be used for tin tungsten, and beryllium deposits.	
11. Pegmatite	Bernic Lake, Man.; Faraday, Ont.; Mt. Copeland, B.C.;
12. More or less condordant deposits in intrusive rock (i.e. concordant with internal layering and/or basal contacts).	Creighton (Contact zone), Ont.; Raglan-Donaldson, Que.; Dumont, Que; Bird River Sill (Cr), Man.; Doré Lake complex (V, Ti), Que.
13. Deposits in carbonatites and related alkalic complexes. This category is not intended to include porphyry deposits.	St-Honoré (Nb, REE), Que.
14. Other deposits in igneous rocks. This category is not intended to include porphyry deposits, pegmatites or other deposits treated specifically elsewhere in this classification.	Frood-Stobie Mines, Ont.; Lynn Lake, Man.; Giant Mascot, B.C.; Moss mine (Mo), Que.; Lac Tio, Que.; Port Coldwell Complex (Cu), Ont.; podiform chromites, Eastern Townships, Que.
15. More or less concordant deposits in metamorphic rocks (i.e. concordant with layering of whatever origin). Used only when the identity of the original rock has been obscured. That is, types 04, 05 etc., take precedence when the host is recognizable.	Thompson Mine, Man.; Ecstall, B.C.; Anglo-Rouyn, Sask.; Minto, Yukon; Glendower, Ont.
16. Other (i.e. not in list above)	Eastern Metals, Que.
17. Insufficient data to classify	Slab Mountain, Yukon.

[1] This table has been included to give a more complete description of the CANMINDEX deposit types and the short terms used in the computer listings

[2] Underlined examples occur within the present study area

Table 3. Subdivisions of major copper deposits types in the north shore region of Lake Huron (after Pearson, 1980)

Deposit Type (after Kirkham, 1972)	Deposit Subtypes
1. Magmatic nickel-copper or simply nickel-copper.	1. Deposits in sublayer and offsets of the Sudbury Nickel Irruptive. 2. Deposits hosted in mafic intrusions other than the Sudbury Nickel Irruptive. (Falconbridge Shakespeare, Mongowin Pluton (Owen)).
2. Carbonatite or alkaline complex deposits.	
3. Volcanogenic polymetallic sulphide or exhalative deposits.	1. Polymetallic massive sulphide deposit (Errington-Vermilion). 2. Iron-copper massive sulphide deposit (Pater Mine). 3. Sulphide-facies iron formation (includes sulphide-rich units in pelitic interflow rocks of the Stobie Formation). No specific property names but occurs across most of Denison and Graham townships. 4. Cu deposits hosted in "cherty quartzite" (Alexander, Bishop, Spanish River Mine).
4. Copper sulphide-native copper deposits in volcanic sequences.	
5. Contact metasomatic or skarn deposits.	1. Fe-Cu-bearing skarn (Cobden River). 2. Zn-Pb-Co-Cu-bearing skarn (Hart Tp). 3. W-Cu-Mo-Zn-bearing skarn (Foster Tp). 4. Contact metasomatic deposits lacking skarn mineralogy (Sudbury Ski Area).
6. Porphyry copper deposits.	
7. Sedimentary or, alternatively, concordant and peneconcordant deposits in sedimentary sequences.	
8. Vein/replacement deposits.	1. Quartz-carbonate-chalcopyrite-pyrite (pyrrhotite) ± specularite veins (Bruce Mines[1], Montgomery Tp). 2. Zn-Pb-Ag-Cu (Pb-Ag-Cu)-bearing veins (Jardun[1], Prace Mine). 3. Cu-Co ± Bi ± U ± Ni-bearing veins (includes vein-like Cu-Co deposits in Nipissing granophyre) (Gimby). 4. Au-bearing quartz-arsenopyrite-pyrite veins with minor chalcopyrite (McMillan Mine, Shakespeare Mine). 5. Quartz-carbonate-chalcocite-bornite-native copper veins (Coppercorp[1]).
9. Unclassified.	

[1] These deposits were classified by Kirkham (1972) as copper sulphide-native copper deposits in volcanic sequences.

Ore Minerals

Ore minerals include all metallic sulphides, arsenides, and oxides present. Major minerals of interest are as follows:

1) Anglesite
2) Argentite
3) Arsenopyrite
4) Bismuthinite
5) Bornite
6) Cerussite
7) Chalcocite (field term)[1]
8) Chalcopyrite
9) Cobaltite
10) Covellite
11) Cubanite
12) Cuprite
13) Danaite
14) Domeykite
15) Erythrite
16) Galena
17) Galenobismutite
18) Gersdorffite
19) Hematite
20) Magnetite
21) Malachite
22) Marcasite
23) Millerite
24) Molybdenite
25) Native arsenic
26) Native copper
27) Native gold
28) Native silver
29) Niccolite
30) Pentlandite
31) Pitchblende
32) Polydymite
33) Powellite
34) Pyrargyrite
35) Pyrite
36) Pyrrhotite
37) Scheelite
38) Skutterudite
39) Smaltite
40) Sperrylite
41) Sphalerite
42) Tetrahedrite
43) Uraninite
44) Uranophane

[1] Chalcocite is used in this report as a field term for chalcocite-type minerals where precise mineralogical data were lacking.

Gangue

The gangue assemblage includes all other minerals not coded above which are present in the mineralized rock. Alteration minerals are not included here. This category is specifically designed for vein deposits. The most prevalent gangue minerals are as follows:

1) Ankerite
2) Barite
3) Calcite
4) Calc-silicates
5) Carbonate undifferentiated
6) Dolomite
7) Quartz
8) Siderite
9) Other

Alteration

Alteration types associated with mineralization are as follows:

1) Albitization
2) Argillic
3) Biotitic
4) Carbonatization
5) Chloritic
6) Hematization
7) Oxidation
8) Potash feldspar
9) Sericitic
10) Silicification
11) Supergene copper enrichment
12) Other

Vein Type

Veins have been subdivided into the following major types:

1) Simple veins
2) Branched veins
3) Vein swarm(s)
4) Vein breccias
5) Vein sets
6) uncertain or other

In some cases more than one category is applicable.

Attitude

Strike and dip of veins/mineralized bodies are given using the Geological Survey of Canada convention of strike being recorded in terms of 360° compass direction with dip direction to the right (i.e. clockwise) from strike.

Relationship to Nipissing Diabase

This category records the spatial (and possible genetic) relationship of mineralization to Nipissing Diabase intrusions as follows:

1) Segregation in diabase/gabbro
2) Cuts diabase/gabbro
3) Along diabase/gabbro contact
4) Skarn adjacent to diabase/gabbro
5) Cuts sedimentary rocks near a diabase/gabbro intrusion (approximately 50 m)
6) No obvious relationship to diabase/gabbro
7) Uncertain or other

Source

This field gives the principal source(s) of the data.

Comments

The comment field gives information on dimensions and grade of the mineral deposit or other relevant data.

Production/Reserves

Production and/or reserves are recorded up to a limit of ten figures. They include metric tonnes and grade of copper, molybdenum, lead, zinc, nickel, gold, and/or silver. Production records also include dates of production and products, such as ore, concentrate or refined metal, to which the grade and tonnage figures refer.

Comments

This free format field includes additional information such as other metals and their grades, cutoff grades, ore zone name, dilution percentage, and open pit versus underground ore and qualifying terms such as preliminary estimate, geological estimate, proven, probable, possible, and drill-indicated.

Reference

Reference is to the source of production or reserve data.

Maps

This field identifies a geological map(s) which shows the location of the IMD. If the location does not appear on any published map, the geological map showing the environment of the occurrence is given.

Reference section

The reference section provides for the coding of seven documents. These include published material, and unpublished theses and assessment reports. Each reference comprises four fields as follows (after Picklyk et al., 1978):

1. AUTHOR – author's surname, truncated at right if more than sixteen (16) characters. In the case of articles with anonymous authors (e.g. reports in The Northern Miner) this field is left blank.
2. INITIALS – first two initials of the author.
3. YEAR – the year of publication.

4. TITLE/DOCUMENT – this field gives the title, document, volume and number if applicable, first page and contents in that order. Documents have been abbreviated as follows: GR – Geological Report; MRC – Mineral Resources Circular; NM – Northern Miner; NMI – National Mineral Inventory; OBM – Ontario Bureau of Mines; ODM – Ontario Department of Mines; OGS – Ontario Geological Survey; SMDR – Source Mineral Deposit Record; SSM – I.D. for ODM Resident Geologist Files; and WNP – William N. Pearson. "Contents" is a one or two letter code indicating the principal field(s) covered by the reference as follows:

A** Location

B Regional geology – a detailed account of the regional geology. Only the best and most recent is included if several references cover this field.

C** Deposit geology – detailed description of the geology of the deposit.

D Geochemistry/geophysics – for references whose principal data are geochemical or geophysical.

E** Host rocks studies – geological or geochemical studies of the host rock of the deposit.

F** Mineralogy – mineralogical studies of the ore.

G Production, reserves, assays, grades – numerical data concerning the deposit.

H Specialized studies – i.e. petrological, metallurgical.

I General – other than above.

** If more than two types of information are covered priority is given to these codes.

REFERENCES

Card, K.D.
1980: Geology, central Superior Province, Ontario: Sudbury (41P), Blind River (41J), Gogama (41P), and Chapleau (41O) map areas; Geological Survey of Canada, Open File 690.

1981: Bedrock geology, central Superior and Southern Provinces, Ontario: Sault Ste. Marie (41K), Michipicoten (41N), Foleyet (42B), White River (42C), Schreiber (42D), Longlac (42E), Hornpayne (42F) and Kapuskasing (42G) map areas; Geological Survey of Canada, Open File 729.

Carrière, J.J., Sinclair, W.D., and Kirkham, R.V.
1981: Copper deposits and occurrences in Yukon Territory; Geological Survey of Canada, Paper 81-12, 62 p.

Kirkham, R.V.
1972: Proposed classification of copper deposits; in Report of Activities, Part B, Geological Survey of Canada, Paper 72-1B, p. 58-61.

Pearson, W.N.
1978: Copper metallogeny, Lake Huron area, Ontario; in Current Research, Part A, Geological Survey of Canada, Paper 78-1A, p. 263-269.

1979: Copper metallogeny, north shore region of Lake Huron, Ontario; in Current Research, Part A, Geological Survey of Canada, Paper 79-1A, p. 289-304.

1980: Copper metallogeny, north shore region of Lake Huron, Ontario; unpublished Ph.D. thesis, Queen's University, Kingston, Ontario, 403 p.

Picklyk, D.D., Rose, D.G., and Laramée, R.M.
1978: Canadian Mineral Occurrence Index (CANMINDEX) of the Geological Survey of Canada; Geological Survey of Canada, Paper 78-8, 27 p.

Shklanka, R.
1969: Copper, nickel, lead and zinc deposits in Ontario; Ontario Department of Mines, Mineral Resources Circular No. 12, 394 p.

APPENDIX 1

Copper deposits with production and/or reserve data

41-17

HALLAM
CU(2)

41/1/04 46 13 08   081 52 48   HALLAM TP/ LOT 7 CON 2
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (PIT/ W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009061) NMI NUMBER (041/1/04/CU/003)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (BRECCIA ZONE IN GREYWACKE & QUARTZ;TE)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (MISSISSAGI FORMATION)
ORE MNRLS (CHALCOPYRITE/PYRITE)
GANGUE (QUARTZ)
ALTERATION (SILICIFICATION)
VEIN TYPE (VEIN BRECCIAS) STRIKE (090) DIP (90)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (WNP 1977 FIELD DATA)
COMMENTS (ZONE 100 FT LONG/3 FT WIDE TO A KNOWN DEPTH OF
120 FT/ AVG GRADE 3% CU)

RESERVE   1958   3,285 TONNES 3.000% CU
   COMMENTS (CALCULATED FROM MRC 12 DATA)
   REFERENCE (ODM MRC 12/ PG 247)

MAP(S) (GEOL P668 ODM/GEOL 2361 ODM)

      / ODM RESIDENT GEOLOGIST FILES/ SUDBURY
----   1958
      / NORTHERN MINER/ FEB 6 & MAR 14 1968
SHKLANKA,R. 1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 247

41-18

OWENS   (MONCOWIN)
NI(2) CU(2) FE(8) AU(8)

41/1/04 46 11 08   081 47 55   MONCOWIN TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (PIT/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009022) NMI NUMBER (041/1/04/NI/002)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (DISSEMINATED & MASSIVE SULPHIDES IN PERIDOTITE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (OTHER THAN SUDBURY)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (MAFIC INTRUSIONS - UNDIFFERENTIATED)
ORE MNRLS (PYRRHOTITE/CHALCOPYRITE/PYRITE/MAGNETITE)
GANGUE (OTHER)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM GR 131/PG 48-49/WNP FIELD)
COMMENTS (DISSEM & MASSIVE SFDS IN PERIDOTITE/UNUSUAL
COLLOFORM MAGNETITE)

RESERVE: 1976   80,718 TONNES 0.270% CU
   0.530% NI
   COMMENTS (DRILL INDICATED)
   REFERENCE (1976 NM FEB 5)

MAP(S) (GEOL 2361 ODM/GEOL 2312 ODM)

CARD,K.D. 1976
      GEOLOGY OF THE ESPANOLA-WHITEFISH FALLS AREA/ ODM
      GEOSCIENCE REPT 131/ PG 48/ *AC*
PEARSON,W.N 1978
      COPPER METALLOGENY NORTH SHORE REGION OF LAKE
      HURON/ GSC PAPER 78-1A/ PG 295/ *AC*
SHKLANKA,R. 1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 257/ *I*
THOMSON,J.E. 1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 88-89/ *I*
MOORE,E.S. 1932
      A MAGNETITE VEIN OF ABNORMAL TYPE/ ECONOMIC
      GEOLOGY/ VOL 27 NO 4/ PG 387-390/ *I*

41-324

ALEXANDER
CU(2)

41/1/05 46 16 38   081 58 38   MAY TP/ LOT 4 CON 6
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (TRENCH/W PEARSON VERIFIED 1978)
CANMINDEX NUMBER (008524) NMI NUMBER (041/J/08/CU/004)

CU DEPOSIT TYPE (VOLCANIC EXHALATIVE)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN SEDIMENTARY ROCKS)
GEOLOGY (SLFDS IN CHERTY QTZITE)

TYPE (VOLCANIC EXHALATIVE)
SUBTYPE (CHERTY QUARTZITE)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (MATINENDA FORMATION)
ORE MNRLS (CHALCOPYRITE/PYRITE)
GANGUE (QUARTZ/OTHER)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (WNP FIELD DATA)
COMMENTS (SFLD ZONE 95M LONG/AVG WIDTH 3M)

RESERVE   1974   350,589 TONNES 0.880% CU
   REFERENCE (NMI/ 1974 NM AUG 15/ PG 8)

MAP(S) (GEOL P702 ODM/GEOL FIG46-6 8183)

      DEVON RESOURCES/ FINANCIAL POST SURVEY OF MINES
      1976/ PG 87
----   1974
      DEVON RESOURCES/ THE NORTHERN MINER/ AUGUST 15
      1974/ PG 8/ *G*
PEARSON,W.N 1978
      COPPER METALLOGENY NORTH SHORE REGION OF LAKE
      HURON/ GSC PAPER 78-1A/ PG 298-300/ *AC*

41-22

FALCONBRIDGE SHAKESPEARE   (SUDBURY SHAKESPEARE)
CU(2) NI(2) AU(8) V(8) PT(8) PD(8) RE(8)

41/1/05 46 21 02   081 49 49   SHAKESPEARE TP/LOT 1 & 2 CON 5
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (PIT/ W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009051) NMI NUMBER (041/1/05/CU/011)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (DISSEM & VEINLETS & BLEBS IN NIPISSING METAGABBRO)

TYPE (MAGMATIC NI-CU)
SUBTYPE (OTHER THAN SUDBURY)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (NIPPISING DIABASE)
ORE MNRLS (CHALCOPYRITE/PYRRHOTITE/PENTLANDITE)
REL TO NIP DIABASE (SEGREGATION IN DIABASE/GABBRO)
SOURCE (WNP/ ODM GR 139/PG 42)

RESERVE: 1952   3,178,148 TONNES 0.400% CU
   0.340% NI
   COMMENTS (RANGE 3-4 MILLION TONS GIVEN)
   REFERENCE (ODM MRC 12/PG 254)

MAP(S) (GEOL P668 ODM/GEOL 2313 ODM)

MOORE,E.S. 1930
      ORE DEPOSITS NEAR THE NORTH SHORE OF LAKE HURON/
      ODM ANN REPT/ VOL 39 PT 7 1929/ PG 25-26
THOMSON,J.E. 1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 90
SHKLANKA,R. 1969
      COPPER/NICKEL/LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 264
CARD,K.D. 1976
      GEOLOGY OF THE DUNLOP-SHAKESPEARE AREA/ ODM
      GEOSCIENCE REPT 139/ PG 42/ *AC*
PEARSON,W.N. 1978
      COPPER METALLOGENY NORTH SHORE REGION OF LAKE
      HURON/ GSC PAPER 78-1A/ PG 295-7 (& FIG 46-4)/
      AC

41-23

FENSOM   (ELLA LAKE)
ZN(2) CU(2)

41/1/05 46 18 12   081 32 22   LORNE TP/ LOT 10 CON 2
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C) COMMENTS (TRENCH/ ODM MAP 2062)
CANMINDEX NUMBER (008656) NMI NUMBER (041/1/05/ZN/001)

CU DEPOSIT TYPE (UNCLASSIFIED)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (MASS & DISS SLFD/ FRACT-BRECC ZONE IN SUBGREYWACKE)

```
REMARKS (SEVERAL ZONES OCCUR OVER TOTAL WIDTH OF 200 FT &
         LENGTH OF 500 FT)

TYPE (UNCLASSIFIED)

SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (PECORS FORMATION)
ORE MNRLS (SPHALERITE/PYRRHOTITE/CHALCOPYRITE/PYRITE)
STRIKE (030)  DIP (75)
REL TO NIP.DIABASE (UNCERTAIN OR OTHER)
SOURCE (ODM GR 35/PG 38-40)
COMMENTS (DEPOSIT 550FT LONG/SEVERAL ZONES ACROSS TOTAL
          WIDTH OF 200FT)

RESERVE:  1952      141,520 TONNES 0 300% CU
    5 170% ZN
    COMMENTS (AVG WIDTH 8 86 FT)
    REFERENCE (ODM MRC 12/ PG 254)
RESERVE:  1952      44,452 TONNES
    4 800% ZN
    COMMENTS (NARROWER BODIES)
    REFERENCE (ODM MRC 12/ PG 254)

MAP(S) (GEOL 2062 ODM/GEOL 2361 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 253/ *CG*
GINN,R.M  1965
      GEOLOGY OF NAIRN AND LORNE TOWNSHIPS/ ODM GEOL
      REPT 35/ PG 38-40/ *AC*
MOORE,E.S  1930
      ORE DEPOSITS NEAR THE NORTH SHORE OF LAKE HURON/
      ODM ANN REPT/ VOL 38 PT 7 1929/ PG 37/ *I*
----    1972
      THE NORTHERN MINER/ JAN 20 1972/ PG 5


41-27

NORANDA SHAKESPEARE
CU(2) CO(?) PB(?) AG(?) ZN(?) AU(?)

41/1/05  46 20 33   081 48 47   SHAKESPEARE TP/ LOT 2 CON 5
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (TRENCH/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009078)  NMI NUMBER (041/1/05/CU/035)

CU DEPOSIT TYPE (VOLCANIC EXHALATIVE)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN SEDIMENTARY ROCKS)
GEOLOGY (PODS& STRINGERS IN ELONGATE ZONES IN CHERTY QTZITE)

REMARKS (ZONE 1900 FT LONG/ AVERAGE GRADE 0.97% CU OVER 10
         FT)

TYPE (VOLCANIC EXHALATIVE)
SUBTYPE (CHERTY QUARTZITE)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (MATINENDA FORMATION)
ORE MNRLS (CHALCOPYRITE/PYRRHOTITE/PYRITE/GALENA)
GANGUE (QUARTZ)
ALTERATION (SILICIFICATION)
STRIKE (088)  DIP (80)
REL TO NIP.DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM GR 139/PG 41/ WMP FIELD)

RESERVE:  1956      344,730 TONNES 0 987% CU
    COMMENTS (CALCULATED TONNAGE)
    REFERENCE (NMI)

MAP(S) (GEOL 2313 ODM/GEOL 2361 ODM)

MOORE,E.S. 1930
      ORE DEPOSITS NEAR THE NORTH SHORE OF LAKE HURON/
      ODM ANN REPT/ VOL 38 PT 7 1929/ PG 26-27
THOMSON,J.E. 1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 97
SHKLANKA,R. 1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268
CARD,K.D. 1976
      GEOLOGY OF THE DUNLOP-SHAKESPEARE AREA/ ODM
      GEOSCIENCE REPT 139/ PG 41/ *AC*
PEARSON,W.N. 1979
      COPPER METALLOGENY NORTH SHORE REGION OF LAKE
      HURON/ GSC PAPER 79-1A/ PG 300 (& FIGURE 48-10)/
      *AC*
----
      / ODM RESIDENT GEOLOGISTS FILES/ SUDBURY


41-21

SPANISH RIVER MINE   (BRISMIL/ BALDWIN)
CU(3) AU(3) AG(3)

41/1/05  46 21 42   081 45 27   BALDWIN TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C)  COMMENTS (ADIT/ W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009049)  NMI NUMBER (041/1/05/CU/013)

CU DEPOSIT TYPE (VOLCANIC EXHALATIVE)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN SEDIMENTARY ROCKS)
GEOLOGY (STRINGERS & DISSEM IN CHERTY QUARTZITE)

REMARKS (2 ZONES/ MAIN ZONE AND WESTERN ZONE)

TYPE (VOLCANIC EXHALATIVE)
SUBTYPE (CHERTY QUARTZITE)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (MISSISSAGI FORMATION/RAMSAY LAKE FORMATION)
ORE MNRLS (CHALCOPYRITE/PYRRHOTITE/CUBANITE/PYRITE)
GANGUE (QUARTZ/OTHER)
ALTERATION (SILICIFICATION)
STRIKE (083)  DIP (71)
REL TO NIP.DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (WMP FIELD DATA/NMI)

PRODUCTION:  JUN/1969 TO SEP/1970      132,735 TONNES ORE
    1 200% CU  0.08G/T AU  1 30G/T AG
    COMMENTS (GRADES CALC FROM PROD DATA)
    REFERENCE (ODM SMDR 000833)
PRODUCTION:  JUN/1969 TO SEP/1970      1,599 TONNES REFINED METAL
    99 000% CU
    REFERENCE (ODM SMDR 000833)
PRODUCTION:  1969 TO 1970      132,736 TONNES ORE
    0.07G/T AU  1.27G/T AG
    COMMENTS (CALC GRADE)
    REFERENCE (ODM SMDR 000833)

RESERVE:  1966      892,757 TONNES 1 490% CU
    COMMENTS (WITHOUT DILUTION/ 2 ZONES)
    REFERENCE (ODM MRC 12/ PG 230)
RESERVE:  1966      538,557 TONNES 1 580% CU
    COMMENTS (LENS/ IS PART OF MAIN ZONE)
    REFERENCE (ODM MRC 12/ PG 230)
RESERVE:  1966      1.500% CU
    COMMENTS (WESTERN ZONE/ 1000 TONS/V. FT)
    REFERENCE (NM JULY 19/ 66/ PG 3)

MAP(S) (GEOL P566 ODM/GEOL 1952-1 ODM)

THOMSON,J.E. 1953
      GEOLOGY OF BALDWIN TOWNSHIP/ ODM ANN REPORT/ VOL
      61 PT 4 1952/ PG 32/ *A*
THOMSON,J.E. 1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 91
----    1956
      / CANADIAN MINING JOURNAL/ VOL 77 NO 11/ PG 174
SHKLANKA,R. 1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 230
HANNILA,J.J.
      PETROGRAPHIC & MINEROGRAPHIC STUDY OF SAMPLES
      FROM THE SPANISH RIVER MINE/ UNPUBL BSC THESIS/
      LAURENTIAN UNIVERSITY 1970
----
      / THE NORTHERN MINER/ OCT 4 1956
PEARSON,W.N. 1979
      COPPER METALLOGENY NORTH SHORE REGION OF LAKE
      HURON/ GSC PAPER 79-1A/ PG 300-303/ *AC*


41-31

SULTANA
NI(?) CU(?)

41/1/05  46 27 03   081 30 43   TRILL & DRURY TPS
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (PIT/ ODM MAP 2055)
CANMINDEX NUMBER (008958)  NMI NUMBER (041/1/05/NI/005)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PROSPECT)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (LNSES IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP.DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM GR 34/PG 33)
COMMENTS (MINERALIZED ZONE APPROX 1000FT LONG/HIGHLY
          IRREGULAR & DISCONTINUOUS)

MAP(S) (GEOL 2170 ODM/GEOL 2055 ODM)

SHKLANKA,R. 1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *CI*
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CARD,K.D. 1965
      GEOLOGY OF HYMAN & DRURY TOWNSHIPS/ ODM GEOL REPT
      34/ PG 33/ *AC*


41-33

TRILLABELLE    (GILLESPIE)
NI(?) CU(?) PT(?) SE(?) TE(?) CO(?) AU(?) AG(?)

41/1/05  46 29 46    081 32 20    TRILL TP/ LOTS 10 & 11 CON 3
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (CU COMMODITY FILE)
CANMINDEX NUMBER (008880)  NMI NUMBER (041/1/05/NI/004)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PROSPECT)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP.DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *CI*


41-47

KIDD COPPER MINE    (AER NICKEL)
NI(3) CU(3) 3(3) PTM(8) AG(8) AU(8)

41/1/05  46 23 42    081 25 55    DENISON TP/ LOT 11-12/ CON 2-3
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C)  COMMENTS (AER ZONE/ ODM MAP 2119)
CANMINDEX NUMBER (008888)  NMI NUMBER (041/1/05/NI/007)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN PIPE-LIKE BRECCIAS IN WORTHINGTON OFFSET)

REMARKS (4 ZONES IN OFFSET)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE/
          GERSDORFFITE/NICCOLITE/POLYDYMITE/N  GOLD/N.SILVER)
REL TO NIP.DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM GR 80/PG 49-52)
COMMENTS (PIPE-LIKE OREBODIES)

PRODUCTION:  NOV/1966 TO 1968      208,905 TONNES
   0.420% CU  0.270% NI
   COMMENTS (PROD TO END OF 1967/CALC GRADE)
   REFERENCE (ODM MRC 12/ PG 241)

MAP(S) (GEOL 2170 ODM/GEOL 2119 ODM)

SHKLANKA,R. 1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 240/ *CG*
----
      /CANADIAN MINES HANDBOOK 1966-1967/ PG 177
CARD,K.D.  1968
      GEOLOGY OF DENISON-WATERS AREA/ ODM GEOL REPORT
      80/ PG 49-52/ *CG*


41-47A

KIDD COPPER MINE-AER ZONE    (ROBINSON MINE/ NO 1 SHAFT)
NI(3) CU(3) CO(3) PTM(8) AU(8) AG(8)

41/1/05  46 23 42    081 25 55    DENISON TP/ LOT 12 CON 2
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ADIT/ ODM MAP 2119)
CANMINDEX NUMBER (008888)  NMI NUMBER (041/1/05/NI/007)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN PIPE-LIKE BRECCIAS IN WORTHINGTON OFFSET)

REMARKS (AER ZONE & ROSEN ZONE TOGETHER REFERRED TO AS AER
         MINE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE/
          GERSDORFFITE/NICCOLITE/POLYDYMITE/N  GOLD/N SILVER)
REL.TO NIP.DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM GR 80/PG 49-52)

RESERVE:  1968      451,545 TONNES 0.710% CU
   0.620% NI
   COMMENTS (10% DILUTION)
   REFERENCE (ODM MRC 12/ PG 241)

MAP(S) (GEOL 2170 ODM/GEOL 2119 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 240/ *CG*
----
      /CANADIAN MINES HANDBOOK 1966-1967/ PG 177
CARD,K.D.  1968
      GEOLOGY OF DENISON-WATERS AREA/ ODM GEOL REPORT
      80/ PG 49-52/ *C*


41-47B

KIDD COPPER MINE-ROSEN ZONE    (GESDORFFITE/ MACDONNELL)
NI(3) CU(3) CO(3) PTM(8) AU(8) AG(8)

41/1/05  46 23 51    081 25 33    DENISON TP/ LOT 12 CON 3
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (NO 2 SHAFT/ ODM MAP 2119)
CANMINDEX NUMBER (008888)  NMI NUMBER (041/1/05/NI/007)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN PIPE-LIKE BRECCIAS IN WORTHINGTON OFFSET)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE/
          GERSDORFFITE/NICCOLITE/POLYDYMITE/N. GOLD/N.SILVER)
REL.TO NIP.DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM GR 80/PG 49-52)

RESERVE:  1968      248,076 TONNES 0.700% CU
   0.600% NI
   COMMENTS (APPROX GRADE)

MAP(S) (GEOL 2170 ODM/GEOL 2119 ODM)

SHKLANKA,R. 1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 240/ *CG*
----  1967
      /CANADIAN MINES HANDBOOK 1966-1967/ PG 177
CARD,K.D. 1968
      GEOLOGY OF DENISON-WATERS AREA/ ODM GEOL REPORT
      80/ PG 49-52/ *C*


41-47C

KIDD COPPER MINE-HOWLAND PIT
NI(3) CU(3) CO(8) PTM(8) AU(8) AG(8)

41/1/05  46 23 35    081 25 14    DENISON TP/ LOT 12 CON 2
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (PIT/ ODM MAP 2119)
CANMINDEX NUMBER (008888)  NMI NUMBER (041/1/05/NI/007)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN PIPE-LIKE BRECCIAS IN WORTHINGTON OFFSET)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (    0 - 1,000  TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE/
          GERSDORFFITE/NICCOLITE/POLYDYMITE/N. GOLD/N.SILVER)
REL.TO NIP.DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM GR 80/PG 49-52)

PRODUCTION:  1915       15,240 TONNES ORE
   2.000% CU  5.000% NI
   COMMENTS (AVG GRADE 6.7 TO 7% COMBINED)
   REFERENCE (NMI 41 1/8 NI 7)
PRODUCTION:  1918        1,583 TONNES ORE
   2.100% CU  5.100% NI
   REFERENCE (NMI 41 1/8 NI 7)

MAP(S) (GEOL 2170 ODM/GEOL 2119 ODM)

SHKLANKA,R. 1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 240/ *C*
----
      /CANADIAN MINES HANDBOOK 1966-1967/ PG 177
CARD,K.D. 1968
      GEOLOGY OF DENISON-WATERS AREA/ ODM GEOL REPORT
      80/ PG 49-52/ *C*
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41-35

CHICAGO MINE (TRAVERS MINE/ INEZ MINE)
CU(3) NI(3)

41/1/06 46 26 00 081 27 51 DRURY TP/ LOT 3 CON 6
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (TRENCH/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (008380) NMI NUMBER (041/1/06/CU/018)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (SLFDS IN BRECCIATED METAVOLC ROCKS)

REMARKS (500 FT FROM SW EDGE OF NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (HURONIAN VOLCANIC ROCKS/SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE;
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (NK:/ODM GR 34/PG 33)
COMMENTS (OCCURRENCE APPROX 500-600FT FROM SW EDGE OF SUDBURY IRRUPTIVE)

PRODUCTION 1891 TO 1894 3,175 TONNES ORE
COMMENTS (NO GRADE DATA)
REFERENCE (NMI)

MAP(S) (GEOL 2055 ODM/GEOL 2170 ODM)

MOORE,E.S. 1930
ORE DEPOSITS NEAR THE NORTH SHORE OF LAKE HURON/ ODM ANN REPT 1929 PART 7/ VOL 38/ PG 38
BARLOW,A.E. 1904
NICKEL AND COPPER DEPOSITS OF THE SUDBURY MINING DISTRICT/ GSC ANN REPT 1901 PART H/ VOL 14/ PG 35
COLEMAN,A.P. 1905
THE NORTHERN NICKEL RANGE/ ODM ANN REPT 1904 PART 1/ VOL 13/ PG 194
COLEMAN,A.P. 1913
THE NICKEL INDUSTRY/ CAN DEPT MINES PUB NO 170/ PG 19 & 40 & 98 & 135

/ ODM ANN REPTS VOL 1 1891 PG 232/ VOL 2 1892 PG 248/ VOL 3 1893 PG 189-190/ VOL 4 1894 PG 249/ VOL 5 1895 PG 273/ VOL 6 1896 PG 276-277/ VOL 7 1897 PG 25 & 93 & 143
COLEMAN,A.P. 1905
THE SUDBURY NICKEL AREA/ ODM ANN REPT 1905 PART 3/ VOL 14/ PG 23 & 81 & 112 & 144
CARD,K.D. 1968
HYMAN AND DRURY TOWNSHIPS/ ODM GEOL REPT 34/ PG 33

41-36

CLARABELLE MINE
CU(3) NI(3) PT(3) PD(3) AU(3) AS(8)

41/1/06 46 28 40 081 04 25 SNIDER TP/ LOT 1 CON 3
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (NMI)
CANMINDEX NUMBER (008882) NMI NUMBER (041/1/06/NI/020)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN OFFSET OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM MRC 12/PG 268)

MAP(S) (GEOL 2170 ODM/GEOL 2381 ODM)

SHKLANKA,R. 1969
COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/ ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *CI*
---- 1917
REPORT OF THE ROYAL ONTARIO NICKEL COMMISSION/ PG 32 & 191/ *C*
COLEMAN,A.P. 1913
THE NICKEL INDUSTRY/ CANADA DEPT MINES/ PUB NO 170/ PG 81-89
---- 1880
CANADIAN MINERAL DEPOSITS NOT BEING MINED IN 1980/ EMR MINERAL POLICY SECTOR INTERNAL REPORT MRI 80/ 7/ PG 105
SOUCH,B.E. 1968
THE SULFIDE ORES OF SUDBURY - THEIR PARTICULAR RELATIONSHIP TO A DISTINCTIVE INCLUSION-BEARING FACIES OF THE NICKEL IRRUPTIVE/ MAGMATIC ORE DEPOSITS/ ECONOMIC GEOLOGY MONOGRAPH NO 4/ PG 280

41-37

COPPER CLIFF MINE
CU(3) NI(3) PT(3) AU(3) PB(7)

41/1/06 46 28 34 081 04 10 MCKIM TP/ LOT 12 CON 2
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (NMI)
CANMINDEX NUMBER (009068) NMI NUMBER (041/1/06/CU/010)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN OFFSET OF SUDBURY NICKEL IRRUPTIVE)

REMARKS (PRODUCTION 1887-1902 & 1903-05)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (NMI)
COMMENTS (UPPER PORTION OF OREBODY RICHER IN CU THAN AT DEPTH)

PRODUCTION 1887 TO 1905 341,771 TONNES ORE
5 130% CU 3 520% NI
COMMENTS (PRODUCTION FIGURES 1887-1905)
REFERENCE (NMI)

MAP(S) (GEOL 1956-1 ODM/GEOL 2170 ODM)

DICKSON,C.W. 1904
THE ORE DEPOSITS OF SUDBURY/ TRANS AMER INST MIN ENG/ VOL 34 (1904) FEBRUARY 1903/ PG 3-87
COLEMAN,A.P. 1913
THE NICKEL INDUSTRY/ CAN DEPT MINES/ PUB NO 170/ PG 63-68
COLEMAN,A.P. 1905
THE SUDBURY NICKEL REGION/ ODM ANN REPT 1905/ VOL 14/ PT 3/ PG 42-48
BARLOW,A.E. 1904
NICKEL AND COPPER DEPOSITS OF THE SUDBURY MINING DISTRICT/ GSC ANN REPT 1901/ VOL 14/ PART H
BARLOW,A.E. 1905
ON THE ORIGIN AND RELATIONS OF THE NICKEL AND COPPER DEPOSITS OF SUDBURY/ ECON GEOL/ VOL 1 NO 5/ PG 481-643
BATEMAN,A.M. 1917
MAGNETIC ORE DEPOSITS/ ECON GEOL/ VOL 12 NO 5/ PG 397
THOMSON,J.E. 1957
GEOLOGY OF THE SUDBURY BASIN/ ODM ANN REPT/ VOL 65 PT 3 1956

41-40

COPPER CLIFF NORTH MINE
NI(3) CU(3) PT(3) PD(3) AU(3)

41/1/06 46 28 30 081 04 03 MCKIM TP/ LOT 12 CON 3
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (NMI)
CANMINDEX NUMBER (008864) NMI NUMBER (041/1/06/NI/020)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN OFFSET OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R. 1969
COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/ ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *CI*
COLEMAN,A.P. 1913
THE NICKEL INDUSTRY/ CANADA DEPT MINES/ PUB NO 170/ PG 82-83
---- 1917
REPORT OF THE ROYAL ONTARIO NICKEL COMMISSION/ PG 32 & 191/ *C*
---- 1880
CANADIAN MINERAL DEPOSITS NOT BEING MINED IN 1980/ EMR MINERAL POLICY SECTOR INTERNAL REPORT MRI 80/ 7/ PG 105
SOUCH,B.E. 1968
THE SULFIDE ORES OF SUDBURY - THEIR PARTICULAR RELATIONSHIP TO A DISTINCTIVE INCLUSION-BEARING FACIES OF THE NICKEL IRRUPTIVE/ MAGMATIC ORE DEPOSITS/ ECONOMIC GEOLOGY MONOGRAPH NO 4/ PG 280

41-38

COPPER CLIFF NO 1 MINE
CU(3) NI(3) PT(3) PD(3) AU(3)

41/1/06 46 28 15 081 04 37 SNIDER TP/ LOT 1 CON 2
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008663) NMI NUMBER (041/1/06/NI/013)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN OFFSET OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

41-39

COPPER CLIFF NO 2 MINE (CANADIAN COPPER NO 2 MINE)
CU(4) NI(4) PT(?) SE(?) TE(?) CO(?) AU(?) AG(?) PD(?)

41/1/06 46 28 59 081 04 03 MCKIM TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (009089) NMI NUMBER (041/1/06/CU/009)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLFD BRECCIA AND STRINGERS IN MAFIC DYKE)

REMARKS (RELATED TO SUDBURY IRRUPTIVE/ MINED 1889-1917)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (NMI)

PRODUCTION: 1889 TO 1902 240,262 TONNES ORE
2.040% CU 2.290% NI
REFERENCE (NMI)
PRODUCTION: 1903 TO 1915 412,832 TONNES ORE
1.840% CU 02.830% NI
REFERENCE (NMI)

MAP(S) (GEOL 1956-1 ODM/GEOL 2170 ODM)

COLEMAN,A.P. 1913
THE NICKEL INDUSTRY/ CAN DEPT MINES/ PUB NO 170/
PG 83-85

/ REPORT OF THE ROYAL ONTARIO NICKEL
COMMISSION-TORONTO 1917
COLEMAN,A.P. 1905
THE SUDBURY NICKEL REGION/ ODM ANN REPT 1905/ VOL
14/ PT 3/ PG 41 & 81 & 114 & 156

/ ODM ANN REPTS/ VOL 9 (1900) TO VOL 15 (1906) &
VOL 21 PT 1 (1911) TO VOL 26 PT 1 (1917)
BROWNE,D.H. 1905
NOTES ON THE ORIGIN OF THE SUDBURY ORES/ ECON
GEOL/ VOL 1/ NO 5/ PG 470 & 472
BARLOW,A.E. 1904
NICKEL AND COPPER DEPOSITS OF THE SUDBURY MINING
DISTRICT/ GSC ANN REPT VOL 14 PT H 1901/ PG 28-28
& 135
THOMSON,J.E. 1957
GEOLOGY OF THE SUDBURY BASIN/ ODM ANN REPT/ VOL
65 PT 3 1956/ *A*

41-41

COPPER CLIFF SOUTH MINE
NI(1) CU(1) PT(1) PD(1) AU(1)

41/1/06 46 27 29 081 04 52 SNIDER TP/ LOT 1 CON 1
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008665) NMI NUMBER (041/1/06/NI/027)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN OFFSET OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

41-42

CREAN HILL MINE
CU(3) NI(3) PD(8) PT(8) AU(8) AG(8) CO(8) SE(8)

41/1/06 46 25 45 081 21 05 DENISON TP/ LOT 4-5 CON 5
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (NMI)
CANMINDEX NUMBER (008361) NMI NUMBER (041/1/06/CU/015)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

REMARKS (PRODUCTION 1905-1919/ 1964-1972/ 1974-1978)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (NMI/ODM GR 60/PG 55-57)

MAP(S) (GEOL P669 ODM/GEOL 2119 ODM)

COLEMAN,A.P. 1913
THE NICKEL INDUSTRY/ CAN DEPT MINES/ PUB NO 170/
PG 13-14 & PG 23

/ODM ANN REPORTS/VOL 55 PT 2 1956 PG 113 &
117-118/VOL 66 PT 2 1957 PG 18-19 & 113 & 115 &
118/VOL 67 PT 2 1958 PG 17-18 & 117-118 & 121/VOL
68 PT 1959 PG 85-86/VOL 74 1964 PG 98
PHEMISTER,T.C. 1926
IGNEOUS ROCKS OF SUDBURY/ ODM ANN REPT 1925 PT 8/
VOL 34/ PG 3 & 27 & 51 & 56
BURROWS,A.G. 1935
SUDBURY NICKEL FIELD RESTUDIED/ ODM ANN REPT 1934
PT 2/ VOL 43/ PG 30-33
COLEMAN,A.P. 1905
THE SUDBURY NICKEL FIELD/ ODM ANN REPT 1905 PT 3/
VOL 14/ PG 32
BATEMAN,A.M. 1917
MAGMATIC ORE DEPOSITS/ ECON GEOL VOL 12/ NO 5/ PG
397
CARD,K.D. 1968
GEOLOGY OF DENISON WATERS AREA / ODM GEOL REPT 60/
PG 55-57/ *A *

41-43

CREIGHTON MINE
NI(1) CU(1) PT(1) PD(1) AU(1)

41/1/06 46 27 37 081 10 53 SNIDER TP/ LOT 10 CON 1
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008666) NMI NUMBER (041/1/06/NI/009)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000,000 - 10,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R. 1969
COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *C1*
SPURR,J.E. 1924
ORE DEPOSITION AT THE CREIGHTON MINE SUDBURY/
ECON GEOL VOL 19/ NO 3/ PG 275-280
YATES,A.B. 1948
PROPERTIES OF INTERNATIONAL NICKEL CO OF CANADA/
STRUCTURAL GEOLOGY OF CANADIAN ORE DEPOSITS/ CIM
JUBILEE VOL/ PG 586 & 608/ *BC*
THOMSON,J.E. 1957
GEOLOGY OF THE SUDBURY BASIN/ ODM ANN REPT 1956
PART 3/ VOL 65/ PG 1-56

Appendix 1 (cont.)

41-44

ELLEN MINE (CREAN HILL MINE NO 2)
CU(3) NI(3) PT(8) SE(8) TE(8) CO(8) AU(8) AG(8) PD(8)

41/1/06 46 25 45 081 19 23 DENISON TP/ LOT 2 CON 5
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (NMI)
CANMINDEX NUMBER (008382) NMI NUMBER (041/1/06/CU/014)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLPDS IN SUBLAYER OF SUDBURY IRRUPTIVE)

REMARKS (1 5 MILES EAST OF CREAN HILL MINE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (NMI)

PRODUCTION 1982 TO 1986 830,443 TONNES ORE
COMMENTS (PRODUCT 81-82/84-86/NO GRADES)
REFERENCE (NMI)

MAP(S) (GEOL P202 ODM/GEOL 2118 ODM)

/ REPORT OF THE ROYAL ONTARIO NICKEL
COMMISSION-TORONTO 1917/ PG 190
CARD,K D 1985
GEOLOGY OF DENISON-WATERS AREA/ ODM GEOL REPORT
60/ PG 57-58/ *AC*

41-45

EVANS MINE (CREAN MINE)
NI(3) CU(3) PT(3) PD(3) AU(3) AG(?)

41/1/06 46 27 37 081 04 37 SNIDER TP/ LOT 1 CON 1
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008867) NMI NUMBER (041/1/06/NI/011)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLPDS IN OFFSET OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R 1988
COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 248/ *C1*
YATES,A B 1948
PROPERTIES OF INTERNATIONAL NICKEL CO OF CANADA/
STRUCTURAL GEOLOGY OF CANADIAN ORE DEPOSITS/ CIM
JUBILEE VOLUME/ PG 596 & 617/ *BC*

41-46

GERTRUDE MINE
CU(3) NI(3) PT(8) SE(8) TE(8) CO(8) AU(8) AG(8) PD(8)

41/1/06 46 27 30 081 13 30 CREIGHTON TP/ LOT 3-5/ CON 1
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (NMI)
CANMINDEX NUMBER (008868) NMI NUMBER (041/1/06/CU/012)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLPDS IN SUBLAYER OF SUDBURY IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (CHALCOPYRITE/PYRRHOTITE/PENTLANDITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (NMI)

PRODUCTION 1902 TO 1903 16,339 TONNES ORE
1.440% CU 1.780% NI
COMMENTS (CALCULATED GRADES)
REFERENCE (NMI)

MAP(S) (GEOL 1956-1 ODM/GEOL 2170 ODM)

THOMSON,J E 1957
COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
ODM METAL RESOURCES CIRCULAR NO 2/ PG 93
BARLOW,A E 1904
NICKEL AND COPPER DEPOSITS OF THE SUDBURY MINING
DISTRICT/ GSC ANN REPORT/ VOL 16 PT H 1903/ PAGES
39 & 48 & 78 & 89 & 95 & 109 & 118 & 120 & 122 &
135 & 196 & 231
PHEMISTER,T C 1926
IGNEOUS ROCKS OF SUDBURY AND THEIR RELATION TO
THE ORE DEPOSITS/ ODM ANN REPORT/ VOL 34 PT 8
1925/ PG 16-18
DICKSON,C W 1904
THE ORE DEPOSITS OF SUDBURY ONTARIO/ TRANS AMER
INST MIN ENG/ VOL 34 FEBRUARY 1903/ PGS 14 & 19 &
41-42 & 52-53
BARLOW,A E 1905
ON THE ORIGIN AND RELATIONS OF THE NICKEL AND
COPPER DEPOSITS OF SUDBURY/ ECON GEOL VOL 1/ NO 6/
PG 548/ 548/ 550/ 552
CAMPBELL,W 1907
ON THE MICROSTRUCTURE OF NICKELIFEROUS
PYRRHOTITES/ ECON GEOL/ VOL 2/ NO 4/ PG 358
BATEMAN,A M 1917
MAGMATIC ORE DEPOSITS/ ECON GEOL/ VOL 12/ NO 5/
PG 402

41-49

MCVITTIE-GRAHAM (WEST GRAHAM)
CU(2) NI(2) PT(8) PD(8)

41/1/06 46 26 04 081 18 28 GRAHAM TP/ LOT 12 CON 5
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (ODM MAP 2119)
CANMINDEX NUMBER (008383) NMI NUMBER (041/1/06/NI/008)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (DISSEM & STRINGERS IN QTZ DIORITE OF NICKEL IRRUPT)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (NMI)
COMMENTS (NO MINERALIZED OUTCROPS/SPLDS INTERSECTED IN
SEVERAL DRILL HOLES)

RESERVE 1970 2,267,961 TONNES 0.380% CU
0.630% NI
COMMENTS (DRILL INDICATED)
REFERENCE (1970 MM JUNE 18)

MAP(S) (GEOL 2170 ODM/GEOL 2119 ODM)

SHKLANKA,R 1988
COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 248/ *CG*
CARD,K D 1988
GEOLOGY OF THE DENISON-WATERS AREA DISTRICT OF
SUDBURY/ ODM GEOL REPT 60/ PG 59

41-50

NORTH STAR MINE (MCCHARLES MINE)
NI(3) CU(3) PT(3) PD(3) AU(3)

41/1/06 46 26 46 081 10 02 SNIDER TP/ LOT 9 CON 2
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008870) NMI NUMBER (041/1/06/NI/018)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLPDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP.DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R 1988
COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 248/ *C1*
THOMSON,J E 1957
GEOLOGY OF THE SUDBURY BASIN/ ODM ANN REPT 1956
PT 3/ VOL 65

Appendix 1 (cont.)

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41-52

TAM O SHANTER
NI(?) CU(?) PT(?) PD(?) AU(?)

41/1/08  46 29 19   081 08 10   SNIDER TP/ LOT 5 CON 3
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (CU COMMODITY FILE)
CANMINDEX NUMBER (008872)  NMI NUMBER (041/1/08/NI/018)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PROSPECT)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2381 ODM)

SHKLANKA,R  1989
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *C)*


41-53

TOTTEN MINE
NI(3) CU(3) PT(3) PD(3) AU(3) CO(8)

41/1/08  46 22 38   081 27 30   DRURY TP/ LOT 2 CON 1
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008873)  NMI NUMBER (041/1/08/NI/002)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN PIPE-LIKE BRECCIAS IN WORTHINGTON OFFSET)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PENTLANDITE/PYRRHOTITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2055 ODM)

SHKLANKA,R  1989
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *C)*
----
      /CANADIAN MINES HANDBOOK 1976-1978/ PG 150
CARD,K.D.  1988
      HYMAN AND DRURY TOWNSHIPS/ ODM GEOL REPT 34/ PG
      18-19 & 32-33
----    1917
      REPORT OF THE ROYAL ONTARIO NICKEL COMMISSION/ PG
      40 & 189-190/ *C*


41-54

VERMILION MINE
CU(3) NI(3) PD(3) PT(3) AG(3) AU(3) SN(?) AS(?)

41/1/08  46 25 00   081 21 30   DENISON TP/ LOT 5-6 CON 4
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (NMI)
CANMINDEX NUMBER (008364)  NMI NUMBER (041/1/08/CU/002)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY IRRUPTIVE)

REMARKS (PRODUCTION 1905-1918/VERY HIGH PRECIOUS METAL
         VALUES)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (    0 - 1,000  TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (CHALCOPYRITE/PENTLANDITE/PYRITE/PYRRHOTITE/
           POLYDYMITE/SPERRYLITE/N. COPPER/N. GOLD/MILLERITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (NMI)
COMMENTS (SPERRYLITE (PTAS2) FIRST FOUND HERE)

PRODUCTION.  1900       178 TONNES ORE
   10.000% CU   11.316/T AU   137.146/T AG
   COMMENTS (20-25% NI+CU/40Z PD&1.50Z PT/T)
   REFERENCE (NMI)
PRODUCTION.  1900 TO 1918      3,641 TONNES ORE
   8.890% CU   6.840% NI
   REFERENCE (NMI)

MAP(S) (GEOL 2170 ODM/GEOL 2119 ODM)

CARD,K.D  1988
      GEOLOGY OF THE DENISON-WATERS AREA/ ODM GEOL REPT
      80/ PG 52
SHKLANKA,R  1989
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 236 / *C*
BELL,R  1891
      SUDBURY MINING DISTRICT / GSC ANN REPORT/ VOL 5
      PART F 1890-91 / PG 51-54
COLEMAN,A.P  1905
      THE SUDBURY NICKEL REGION/ ODM ANN REPT / VOL 14 /
      PT 3 / PG 31 / 81 / 140 / 153
DICKSON,C.W  1904
      THE ORE DEPOSITS OF SUDBURY / TRANS AMER INST MIN
      ENG / VOL 34 FEB 1903 / PG 5 & 118 30
PHEMISTER,T.C  1926
      IGNEOUS ROCKS OF SUDBURY / ODM ANN REPT / VOL 34
      PT 8 1925 / PG 56
BURROWS,A.G.  1935
      SUDBURY NICKEL FIELD RESTUDIED / ODM ANN REPT /
      VOL 43 PT 2 1934 / PG 28


41-55

VICTORIA MINE   (MCCONNELL MINE)
CU(4) NI(4) AU(4) PT(4) AG(4) W(?)

41/1/08  46 25 25   081 23 17   DENISON TP/ LOT 8 CON 4
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (SHAFT/ ODM MAP 2119)
CANMINDEX NUMBER (009075)  NMI NUMBER (041/1/08/CU/003)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY IRRUPTIVE)

REMARKS (FIRST NI MINE IN AREA IN WHICH AU & PT FOUND)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/CHALCOPYRITE/PENTLANDITE/SPERRYLITE/
           SCHEELITE)
GANGUE (QUARTZ/CALCITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (NMI)

PRODUCTION.  1900 TO 1923      562,102 TONNES ORE
   3.300% CU   1.600% NI
   COMMENTS (PRODUCTION FIGURES FOR 1900-15)
   REFERENCE (NMI)

MAP(S) (GEOL 2119 ODM/GEOL 2170 ODM)

COLEMAN,A.P.  1913
      THE NICKEL INDUSTRY/ CAN DEPT MINES/ REPORT NO 170
PHEMISTER,T.C.  1926
      IGNEOUS ROCKS OF SUDBURY/ ODM ANN REPORT/ VOL 34
YATES,A.B.  1938
      THE SUDBURY INTRUSIVE/ TRANS ROY SOC OF CANADA/
      VOL 32/ SECT 4/ PG 184-188
BATEMAN,A.M.  1917
      MAGMATIC ORE DEPOSITS SUDBURY/ ECON GEOL/ VOL 12/
      NO 5/ PG 397-398
DICKSON,C.W.  1904
      THE ORE DEPOSITS OF SUDBURY/ TRANS AMER INST MIN
      ENG/ VOL 34/ PG 5/ 12/ 14/ 19-20/ 30/ 40/ 53
BARLOW,A.E.  1904
      NICKEL AND COPPER DEPOSITS OF THE SUDBURY MINING
      DISTRICT/ GSC ANN REPT 1901/ VOL 14/ PART H
CARD,K.D.  1988
      GEOLOGY OF THE DENISON-WATERS AREA/ ODM GEOL REPT
      80/ PG 54


41-80

ALWYN PORCUPINE   (BURDA)
CU(5) AU(5)

41/1/10  48 42 00   080 37 48   SCADDING TP/ LOT 7 CON 8
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (SHAFT/ ODM MAP 2008)
CANMINDEX NUMBER (008382)  NMI NUMBER (041/1/10/CU/008)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (VEINS IN FAULT ZONE CUTTING CONGLOMERATE)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (PYRITE/CHALCOPYRITE)
GANGUE (QUARTZ/CARBONATE)
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Appendix 1 (cont.)

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VEIN TYPE (VEIN SWARM(S)/VEIN BRECCIAS)
REL TO NIP DIABASE (CUTS SED ROCKS NEAR DIABASE/GABBRO INTRUSION)
SOURCE (ODM GR 2/PG 28)
COMMENTS (GEOMETRICAL AVG VEIN/O 022 OZ/TON AU/O 42% CU
          OVER AVG WIDTH OF 15 FT)

RESERVE    1951       108,882 TONNES O 420% CU
   O 75G/T AU
   COMMENTS (CALCULATED TONNAGE)
   REFERENCE (NMI)

MAP(S) (GEOL 2009 ODM/GEOL 2361 ODM)

KINDLE,E D  1936
      GOLD OCCURRENCES OF ONTARIO EAST OF LAKE SUPERIOR/
      GSC MEM 192/ PG 145
THOMSON,J E  1961
      MACLENNAN AND SCADDING TOWNSHIPS/ ODM GEOL REPT 2/
      PG 28
SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 283/ *CG*
----
      / ODM RESIDENT GEOLOGISYS FILES/ SUDBURY


41-81

BLEZARD MINE    (DOMINION)
NI(3) CU(3) PY(3) PD(3) AU(3)

41/1/10  46 33 36   080 58 28    BLEZARD TP/ LOT 4 CON 2
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (CU COMMODITY FILE)
CANMINDEX NUMBER (008676)  NMI NUMBER (041/1/10/NI/012)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/PG 268/ *C1*


41-82

CAPRE
NI(?) CU(?) PY(?) PD(?) AU(?)

41/1/10  46 41 48   080 50 08   CAPREOL TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008677)  NMI NUMBER (041/1/10/NI/022)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PROSPECT)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *C1*


41-84

FALCONBRIDGE EAST MINE
NI(3) CU(3) PTM(3) AU(8) CO(8) SE(8) AG(8) PE(8) S(8)

41/1/10  46 34 53   080 48 58   FALCONBRIDGE TP/ LOT 9 CON 4
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008678)  NMI NUMBER (041/1/10/NI/022)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (ALONG FALCONBRIDGE FAULT CUTTING NORITE & VOLC RKS)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 1957-S ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 266/ *C1*
----    1959
      THE FALCONBRIDGE STORY/ CANADIAN MINING JOURNAL/
      VOL 80 NO 6/ PG 123/ *C*
THOMSON,J E  1959
      GEOLOGY OF FALCONBRIDGE TOWNSHIP/ ODM ANNUAL
      REPORT 1957 PT 6/ VOL 66/ *BC*


41-83

FALCONBRIDGE MINE
NI(1) CU(1) PTM(1) AU(1) AG(8) S(8) SE(8) CO(8) PE(8)

41/1/10  46 34 51   080 48 02   FALCONBRIDGE TP/ LOT 11 CON 4
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008678)  NMI NUMBER (041/1/10/NI/001)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (ALONG FALCONBRIDGE FAULT CUTTING NORITE & VOLC RKS)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000,000 - 10,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 1957-S ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 266/ *C1*
DAVIDSON,S  1948
      FALCONBRIDGE MINE/ STRUCTURAL GEOLOGY OF CANADIAN
      ORE DEPOSITS/ CIM JUBILEE VOLUME/ PG 618-626/ *BC*
LOCHHEAD,D B  1955
      THE FALCONBRIDGE ORE DEPOSIT/ ECONOMIC GEOLOGY/
      VOL 50 NO 1/ PG 42-50
----    1959
      / CANADIAN MINING JOURNAL/ VOL 80 NO 8/ PG 123 &
      153-158
THOMSON,J E  1959
      GEOLOGY OF FALCONBRIDGE TOWNSHIP/ ODM ANN REPT/
      VOL 65 1957 PT 6
ONEILL,J J  1934
      PLATINUM AND ALLIED METAL DEPOSITS OF CANADA/ GSC
      ECON GEOL SER NO 13/ PG 71


41-85

GARSON MINE
NI(1) CU(1) PY(1) PD(1) AU(1)

41/1/10  46 33 58   080 51 30   GARSON TP/ LOT 4 CON 3
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008681)  NMI NUMBER (041/1/10/NI/003)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (ALONG GARSON FAULT IN NORITE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL P367 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *C1*
YATES,A B  1948
      PROPERTIES OF INTERNATIONAL NICKEL CO OF CANADA/
      STRUCTURAL GEOLOGY OF CANADIAN ORE DEPOSITS/ CIM
      JUBILEE VOLUME/ PG 596 & 613/ *BC*
SOUCH,B E  1969
      THE SULFIDE ORES OF SUDBURY - THEIR PARTICULAR
      RELATIONSHIP TO A DISTINCTIVE INCLUSION-BEARING
      FACIES OF THE NICKEL IRRUPTIVE/ MAGMATIC ORE
      DEPOSITS/ ECONOMIC GEOLOGY MONOGRAPH NO 4/ PG 258-
----    1917
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Appendix 1 (cont.)

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      REPORT OF THE ROYAL ONTARIO NICKEL COMMISSION/ PG
      44-45 & 155-183/ *C*


41-86

KIRKWOOD MINE
NI(4) PTM(4) CU(4)

41/1/10  46 34 00   080 53 46   GARSON TP/ LOT 8 CON 3
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (CU COMMODITY FILE)
CANMINDEX NUMBER (008682)  NMI NUMBER (041/1/10/NI/016)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL P367 ODM)

SHKLANKA,R  1988
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *C1*


41-89

MACLENNAN MINE
NI(3) CU(3) PT(3) PD(3) AU(3)

41/1/10  46 38 57   080 46 08   MACLENNAN TP/ LOT 8 CON 2
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (CU COMMODITY FILE)
CANMINDEX NUMBER (008683)  NMI NUMBER (041/1/10/NI/010)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R  1988
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *C1*


41-87

MOUNT NICKEL MINE
NI(4) CU(4) PT(4) PD(4) AU(4)

41/1/10  46 33 00   080 59 35   BLEZARD TP/ LOT 5 CON 1 & 2
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008702)  NMI NUMBER (041/1/10/NI/011)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRRHOTITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R. 1988
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *C1*


41-302

NICKEL RIM MINE
NI(3) CU(3) PT(3) PD(3) AU(3)

41/1/10  46 40 30   080 48 12   MACLENNAN TP/ LOT 11 CON 4
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008684)  NMI NUMBER (041/1/10/NI/007)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

PRODUCTION   1952 TO 1958      1,157,234 TONNES ORE
   0 240% CU  0 550% NI
   COMMENTS (CALC GRADES)
   REFERENCE (ODM MRC 12/ PG 255)

RESERVE   JAN/1959      678,233 TONNES 0 350% CU
   0 800% NI
   COMMENTS (BEFORE DILUTION)
   REFERENCE (ODM MRC 12/ PG 255)

MAP(S) (GEOL 2170 ODM/GEOL 2009 ODM)

SHKLANKA,R  1988
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 264/ *CC*
THOMSON,J E  1961
      GEOLOGY OF MACLENNAN AND SCADDING TOWNSHIPS/ ODM
      GEOL REPORT 2/ PG 26-27
----   1953
      EAST RIM NICKEL ML/ CANADIAN MINES HANDBOOK 1953/
      PG 68


41-70

NORDUNA MINE
NI(4) CU(4) PT(4) PD(4) AU(4)

41/1/10  46 36 20   080 45 49   FALCONBRIDGE TP/ LOT 7 CON 5
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (CU COMMODITY FILE)
CANMINDEX NUMBER (008685)  NMI NUMBER (041/1/10/NI/004)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL P367 ODM)

SHKLANKA,R  1988
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *C1*


41-88

NORSTAR LAKE MINE   (MOUNT AETNA)
CU(2) AU(2) AS(?)

41/1/10  46 38 33   080 31 00   DAVIS TP/ LOT 10 CON 3
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2037)
CANMINDEX NUMBER (008384)  NMI NUMBER (041/1/10/AU/003)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (SLFD IN BRECCIATED ARGILLITE ASSOC W GABBRO DYKE)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PD)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE/PYRITE/ARSENOPYRITE/N  GOLD)
GANGUE (QUARTZ/CARBONATE)
VEIN TYPE (VEIN BRECCIAS)  STRIKE (050)
REL TO NIP DIABASE (CUTS SED ROCKS NEAR DIABASE/GABBRO INTRUSION)
SOURCE (ODM MRC 12/PG 239)
COMMENTS (ORE ZONE 225FT LONG/25FT WIDE TO DEPTH OF 400FT)

RESERVE   DEC/1958      249,476 TONNES 1 500% CU
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Appendix 1 (cont.)

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    14.05G/T AU
    COMMENTS (D.D  INDICATED)
    REFERENCE (1983 ODM GR 15/ PG 16)
RESERVE   1973      83,085 TONNES 1.210% CU
    6.92G/T AU
    COMMENTS (AFTER 10% DILUTION/312 FT DEEP)
    REFERENCE (1973 NM MAY 31/ PG 3)

MAP(S) (GEOL 2037 ODM/GEOL 41E BIBL 1)

KINDLE,L.F  1933
     MOOSE MOUNTAIN-WANAPITEI AREA/ ODM ANN REPT 1932
     PART 4/ VOL 41/ PG 38
SHKLANKA,R.  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 238/ *CG*
----
     / ODM RESIDENT GEOLOGISTS FILES/ SUDBURY
THOMSON,J.E  1963
     KELLY AND DAVIS TOWNSHIPS/ ODM GEOL REPT 15/ PG
     13-18/ *C*
GORDON,J.B  1979
     GOLD DEPOSITS OF ONTARIO PART 2/ DCS MINERAL
     DEPOSITS CIRCULAR 18/ PG 58-59


41-71

SHEPPARD
NI(7) CU(7) PT(7) PD(7) AU(7)

41/1/10  46 34 02   080 57 02   BLEZARD TP/ LOT 1 CON 3
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008868)  NMI NUMBER (041/1/10/NI/006)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PROSPECT)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL P387 ODM)

SHKLANKA,R  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *C1*


41-72

STOBIE MINE
NI(1) CU(1) PT(1) PD(1) AU(1) CO(8) AG(8) PE(8)

41/1/10  46 32 21   080 59 25   BLEZARD TP/ LOT 5 CON 1
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (P)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008887)  NMI NUMBER (041/1/10/NI/021)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN FRODD-STOBIE OFFSET OF NICKEL IRRUPTIVE)

REMARKS (SHARES OREBODY WITH FRODD MINE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000,000 - 10,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R.  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *C1*
ZURBRIGG,H.F.  1957
     THE FRODD-STOBIE MINE/ STRUCTURAL GEOLOGY OF
     CANADIAN ORE DEPOSITS/ VOL 2/ CIM CONGRESS VOLUME/
     PG 341/ *CF*
YATES,A.B  1948
     PROPERTIES OF INTERNATIONAL NICKEL CO OF CANADA/
     STRUCTURAL GEOLOGY OF CANADIAN ORE DEPOSITS/ CIM
     JUBILEE VOLUME/ PG 596 & 611/ *BC*
YOUNG,J.W  1934
     THE SUDBURY ORE DEPOSITS/ ECONOMIC GEOLOGY/ VOL
     18 NO 7/ PG 677-681


41-59

VICTOR MINE
NI(3) CU(3) PT(3) PD(3) AU(3)

41/1/10  46 40 47   080 48 49   MACLENNAN TP/ LOT 10 CON 4
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008674)  NMI NUMBER (041/1/10/NI/008)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *C1*


41-73

BIG LEVACK MINE
NI(1) CU(1) PT(1) PD(1) AU(1)

41/1/11  46 41 00   081 19 42   LEVACK TP/ LOT 2 CON 4
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (CU COMMODITY FILE)
CANMINDEX NUMBER (008888)  NMI NUMBER (041/1/11/NI/014)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000,000 - 10,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *C1*


41-74

BOUNDARY MINE
NI(3) CU(3) PT(3) PD(3) AU(3)

41/1/11  46 37 57   081 23 30   LEVACK TP/ LOT 8-9 CON 1
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008889)  NMI NUMBER (041/1/11/NI/010)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000,000 - 10,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R.  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *C1*


41-75

COLEMAN MINE
NI(1) CU(1) PT(1) PD(1) AU(1)

41/1/11  46 40 33   081 20 18   LEVACK TP/ LOT 3 CON 4
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (CU COMMODITY FILE)
CANMINDEX NUMBER (008890)  NMI NUMBER (041/1/11/NI/020)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
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CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R. 1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 268/ *CI*
LANGFORD,F.F  1980
     GEOLOGY OF LEVACK 4 PART OF DOWLING TOWNSHIPS/
     ODM PRELIMINARY REPORT 1980-5


41-733

ELSIE MINE
NI(3) CU(3)

41/1/11  46 30 30   081 04 29   SNIDER TP/ LOT 1 CON 4-5
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (P)  COMMENTS (ODM MAP 2361)
CANMINDEX NUMBER (004969)  NMI NUMBER (041/1/11/NI/009)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY IRRUPTIVE)

REMARKS (AFTER 1925 MINING OPERATIONS CONNECTED WITH
         MURRAY MINE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM MAP 2361)

PRODUCTION:  1901 TO 1903      30,894 TONNES ORE
   0.360% CU  0.740% NI
   COMMENTS (AVG RECOVERY GRADE/MINED FOR 5)
   REFERENCE (NMI 41 1/11 NI 9/SMDR 000878)

MAP(S) (GEOL 2361 ODM/GEOL 2170 ODM)


41-76

ERRINGTON MINE
ZN(3) CU(3) PB(3) AU(3) AG(3)

41/1/11  46 32 15   081 15 24   CREIGHTON & BALFOUR TPS
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C)  COMMENTS (NO 2 SHAFT/ ODM MAP 2170)
CANMINDEX NUMBER (008891)  NMI NUMBER (041/1/11/CU/007)

CU DEPOSIT TYPE (VOLCANIC EXHALATIVE)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN VOLCANIC ROCKS)
GEOLOGY (MASS & DISS IN CHERT & CARBONATE BTWN TUFF & SLATE)

REMARKS (OREBODIES INCLUDE THE CHRISTIE/ RHEAUME NO1 & NO2/
         ROMIC&SOUTH ROMIC)

TYPE (VOLCANIC EXHALATIVE)
SUBTYPE (POLYMETALLIC)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (WHITEWATER GROUP)
ORE MNRLS (PYRITE/SPHALERITE/CHALCOPYRITE/PYRRHOTITE/GALENA)
GANGUE (CARBONATE)
REL.TO NIP.DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM MRC 12/PG 238)
COMMENTS (SEVERAL OREBODIES IN COMPLEXLY FOLDED AND FAULTED
          ZONE)

PRODUCTION:  1928 TO 1930      1,958,792 TONNES ORE
   0.760% CU  0.360% PB  3.180% ZN
   COMMENTS (CALC GRADE)
   REFERENCE (ODM MRC 12/ PG 238)

RESERVE:  1988      8,199,423 TONNES 1.140% CU
   0.990% PB  3.820% ZN  0.78G/T AU  54.17G/T AG
   COMMENTS (HIGH PYRITE ORE)
   REFERENCE (ODM MRC 12/ PG 238)
RESERVE:  1988      4,008,395 TONNES 1.330% CU
   1.000% PB  3.970% ZN  0.89G/T AU  55.20G/T AG
   COMMENTS (LOW PYRITE ORE)
   REFERENCE (ODM MRC 12/ PG 238)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R. 1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 238/ *CC*
----   1971
     / CANADIAN MINES HANDBOOK 1971-72/ PG 188
THOMSON,J.E  1957
     GEOLOGY OF THE SUDBURY BASIN/ ODM ANN REPT 1956/
     VOL 65 PART 3/ PG 46/ *AC*
MARTIN,W.C  1957
     ERRINGTON AND VERMILION LAKE MINES/ STRUCTURAL
     GEOLOGY OF CANADIAN ORE DEPOSITS/ VOL 2/ CIM
     CONGRESS VOLUME/ PG 383/ *CH*
CARD,K.D  1972
     THE SUDBURY STRUCTURE-ITS REGIONAL GEOLOGICAL
     SETTING/ IN GUY-BRAY J.V.(ED)/ NEW DEVELOPMENTS
     IN SUDBURY GEOLOGY/ GAC SPEC PAPER 10/ PG 87-98


41-77

FECUNIS MINE
NI(3) CU(3) PY(3) PD(3) AU(3) CO(8)

41/1/11  46 39 30   081 21 30   LEVACK TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (NMI)
CANMINDEX NUMBER (008892)  NMI NUMBER (041/1/11/NI/008)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000,000 - 10,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 288
----   1959
     THE FALCONBRIDGE STORY/ CANADIAN MINING JOURNAL/
     VOL 80 NO 6/ PG 125/ *C*


41-78

FRODD MINE
NI(1) CU(1) PY(1) PD(1) AU(1) CO(8) AG(8) FE(8)

41/1/11  46 31 30   081 00 20   MCKIM TP/ LOT 6-7 CON 8
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (CU COMMODITY FILE)
CANMINDEX NUMBER (008893)  NMI NUMBER (041/1/10/NI/021)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN FRODD-STOBIE OFFSET OF NICKEL IRRUPTIVE)

REMARKS (SHARES OREBODY WITH STOBIE MINE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000,000 - 10,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R.  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 288/ *CI*
ZUBRIGG,H.F  1957
     THE FRODD-STOBIE MINE/ STRUCTURAL GEOLOGY OF
     CANADIAN ORE DEPOSITS/ VOL 2/ CIM CONGRESS VOLUME/
     PG 341/ *CF*
YATES,A.B.  1948
     PROPERTIES OF INTERNATIONAL NICKEL OF CANADA/
     STRUCTURAL GEOLOGY OF CANADIAN ORE DEPOSITS/ CIM
     JUBILEE VOLUME/ PG 596 & 611/ *BC*


41-79

HARDY MINE
NI(3) CU(3) PY(3) PD(3) AU(3)

41/1/11  46 37 54   081 23 48   LEVACK TP/ LOT 9 CON 1
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (CU COMMODITY FILE)
CANMINDEX NUMBER (008894)  NMI NUMBER (041/1/11/NI/006)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
```

GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SMKLANKA,R. 1988
COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 288/ *C)*
MITCHELL,G.P. 1957
HARDY MINE/ STRUCTURAL GEOLOGY OF CANADIAN ORE
DEPOSITS/ VOL 2/ CIM CONGRESS VOLUME/ PG 350/ *CF*

41-81

LEVACK MINE
NI(1) CU(1) PT(1) PD(1) AU(1) CO(8) FE(8)

41/1/11 46 38 00 081 22 45 LEVACK TP/ LOT 7 CON 2
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (CU COMMODITY FILE)
CANMINDEX NUMBER (008698) NMI NUMBER (041/1/11/NI/017)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000,000 - 10,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SMKLANKA,R 1988
COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 288
YATES,A.B 1948
PROPERTIES OF INTERNATIONAL NICKEL CO OF CANADA/
STRUCTURAL GEOLOGY OF CANADIAN ORE DEPOSITS/ CIM
JUBILEE VOLUME/ PG 586 & 614/ *C*
---- 1917
REPORT OF THE ROYAL ONTARIO NICKEL COMMISSION/ PG
51-52 & 163-167/ *C*
SOUCH,B.E 1968
THE SULFIDE ORES OF SUDBURY - THEIR PARTICULAR
RELATIONSHIP TO A DISTINCTIVE INCLUSION-BEARING
FACIES OF THE NICKEL IRRUPTIVE/ MAGMATIC ORE
DEPOSITS/ ECONOMIC GEOLOGY MONOGRAPH NO 4/ PG 280

41-82

LEVACK WEST MINE (MCCREEDY WEST MINE)
NI(1) CU(1) PE(8) PD(8) AU(8) CO(8) PT(8)

41/1/11 46 38 08 081 24 00 LEVACK TP/ LOT 9 CON 1
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008697) NMI NUMBER (041/1/11/NI/022)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SMKLANKA,R. 1988
COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 288
HOFFMAN,E.L. 1979
THE NOBLE METAL CONTENT OF ORE IN THE LEVACK WEST
AND LITTLE STOBIE MINES ONTARIO/ CANADIAN
MINERALOGIST/ VOL 17 PT 3/ PG 437-451

41-83

LITTLE STOBIE MINE
NI(1) CU(1) PT(1) PD(1) AU(1)

41/1/11 46 32 40 081 00 18 BLEZARD TP/ LOT 8 CON 1
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008698) NMI NUMBER (041/1/11/NI/015)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SMKLANKA,R 1988
COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 288/ *C)*
---- 1917
REPORT OF THE ROYAL ONTARIO NICKEL COMMISSION/ PG
40 & 20/ *C*
HOFFMAN,E L 1979
THE NOBLE METAL CONTENT OF ORE IN THE LEVACK WEST
AND LITTLE STOBIE MINES ONTARIO/ CANADIAN
MINERALOGIST/ VOL 17 PT 3/ PG 437-451

41-84

LONGVACK MINE
NI(4) CU(4)

41/1/11 46 40 51 081 20 02 LEVACK TP/ LOT 3 CON 4
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008699) NMI NUMBER (041/1/11/NI/012)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SMKLANKA,R. 1988
COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 288/ *C)*

41-85

LONGVACK SOUTH MINE
NI(4) CU(4) PT(4) PD(4) AU(4)

41/1/11 46 40 44 081 20 05 LEVACK TP/ LOT 3 CON 4
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008700) NMI NUMBER (041/1/11/NI/018)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

LANGFORD,F.F 1980
GEOLOGY OF LEVACK TOWNSHIP & THE NORTHERN PART OF
DOWLING TOWNSHIP/ ODM PR 1980-5

Appendix 1 (cont.)

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41-86

MCKIM MINE
NI(3) CU(3) PY(3) PD(3) AU(3) AG(3) CO(8) IR(8) RU(8) RH(8)

41/1/11  46 31 21   081 03 12   MCKIM TP/ LOT 11 CON 6
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008701)  NMI NUMBER (041/1/11/NI/007)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLPDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 288/ *C)*


41-88

MURRAY MINE
NI(3) CU(3) PY(3) AG(3) PE(3) MO(8)

41/1/11  46 30 44   081 04 04   MCKIM TP/ LOT 12 CON 5
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008703)  NMI NUMBER (041/1/11/NI/008)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLPDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 288/ *C)*
YATES,A B  1948
      PROPERTIES OF INTERNATIONAL NICKEL CO OF CANADA/
      STRUCTURAL GEOLOGY OF CANADIAN ORE DEPOSITS/ CIM
      JUBILEE VOLUME/ PG 588 & 615/ *BC*


41-89

NORTH MINE
NI(3) CU(3) PY(3) PD(3) AU(3)

41/1/11  46 30 22   081 21 27   LEVACK TP/ LOT 10 CON 2
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008704)  NMI NUMBER (041/1/11/NI/010)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLPDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 288/ *C)*

41-90

NORTH RANGE MINE
NI(3) CU(3) PY(3) PD(3) AU(3)

41/1/11  46 44 24   081 03 06   WISNER TP/ LOT 10 CON 2
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008705)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLPDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 288/ *C)*


41-91

ONAPING MINE
NI(3) CU(3) PY(3) PD(3)

41/1/11  46 37 58   081 23 04   LEVACK TP/ LOT 8 CON 1
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008706)  NMI NUMBER (041/1/11/NI/010)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLPDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000,000 - 10,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 288
SOUCH,B E  1969
      INCO-THE SULPHIDE ORES OF SUDBURY-THEIR
      PARTICULAR RELATIONSHIP TO A DISTINCTIVE
      INCLUSION BEARING FACIES OF THE NICKEL IRRUPTIVE/
      MAGMATIC ORE DEPOSITS/ ECON GEOL MONOGRAPH NO 4/ P


41-92

STRATHCONA MINE
CU(1) NI(1) AG(1) PTM(8) CO(8)

41/1/11  46 40 20   081 20 38   LEVACK TP/ LOT 4 CON 4
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (CU COMMODITY FILE)
CANMINDEX NUMBER (008707)  NMI NUMBER (041/1/11/NI/013)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLPDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000,000 - 10,000,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 288/ *C)*
----
      / THE NORTHERN MINER/ MARCH 17 1977 PG 1 & 13/
      APRIL 13 1978 PG 3/  *G*
COWAN,J.C  1968
      GEOLOGY OF THE STRATHCONA ORE DEPOSIT/ CIM BULL
      VOL 61/ JANUARY 1968/ PG 38-54
HALDRETT,A.J  1967
      A STUDY OF THE STRATHCONA MINE AND ITS BEARING ON
      THE ORIGIN OF THE NICKEL-COPPER ORES OF THE
      SUDBURY DISTRICT ONTARIO/ JOURNAL OF PETROLOGY
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      VOL 8/ PG 453-531
MALDRETT,A J  1972
      GEOLOGY OF THE SUDBURY IRRUPTIVE/ 24TH IGC FIELD
      EXCURSION GUIDE BOOK C38/ PG 31-34
----  1817
      REPORT OF THE ROYAL ONTARIO NICKEL COMMISSION/ PC
      54 8 207-208/ *C*
ABEL,M K  1979
      COPPER MINERALIZATION IN THE FOOTWALL COMPLEX
      STRATHCONA MINE/ CANADIAN MINERALOGIST/ VOL 17/
      PG 275-286


41-95

WD 150/ WD 155
NI(?) CU(?) PT(?) PD(?) AU(?)

41/1/11  46 44 31   081 07 57   BOWELL TP/ LOT 6 CON 2-3
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008709)  NMI NUMBER (041/1/11/NI/003)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PROSPECT)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN OFFSET OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SMKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 285


41-868

STRALAK-EAST ZONE
ZN(2) CU(2) AG(2) PB(?)

41/1/13  46 48 09   081 41 50   CRAIG TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (TREMCH/W PEARSON VERIFIED 1978)
CANMINDEX NUMBER (008711)  NMI NUMBER (041/1/13/ZN/001)

CU DEPOSIT TYPE (VOLCANIC EXHALATIVE)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN VOLCANIC ROCKS)
GEOLOGY (MASSIVE SLFDS ALONG CONTACT BTWN METASEDS-METAVOLC)

REMARKS (LENGTH 1500 FT/ MINERALIZED UP TO 10FT WIDTH INCL
         MASS SFLDS UP TO 6FT)

TYPE (VOLCANIC EXHALATIVE)
SUBTYPE (POLYMETALLIC)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (ARCHEAN METAVOLCANIC ROCKS)
ORE MNRLS (PYRITE/PYRRHOTITE/SPHALERITE/CHALCOPYRITE/GALENA)
STRIKE (090)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM OPEN FILE 5255/PG 113-117)
COMMENTS (ZONE 1500FT LONG/1-8FT WIDE/ASSAYS 0 5-22% ZN/
          0 08% PB/0-2 3% CU/0-3 8 OZ/TON AG)

RESERVE   1982      329,924 TONNES @ 3 20% CU
   3 180% ZN  23 31G/T AG
   COMMENTS (WIDTH 6 6 FT DEPTH 157 FT)
   REFERENCE (ODM MRC 12/ PG 235)

MAP(S) (GEOL P1107 ODM/GEOL 2361 ODM)

SMKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 235/ *CG*
OSBORNE,F F  1930
      THE CARTIER-STRALAK AREA/ ODM ANN REPT 1929/ VOL
      38 PT 7/ PG 63 *BC*
CARD,K D  1978
      GEOLOGY OF THE BENNY AREA/ GSC OPEN FILE REPT
      5258/ PG 112


41-89

NICKEL OFFSETS MINE   (ROSS MINE)
NI(4) CU(4) CO(4) PT(4) PD(4)

41/1/14  46 45 32   081 14 20   FOY TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C)  COMMENTS (NO 1 SHAFT/ ODM MAP 2133)
CANMINDEX NUMBER (008818)  NMI NUMBER (041/1/14/NI/002)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)

CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS IN FOY OFFSET OF SUDBURY NICKEL IRRUPTIVE)

REMARKS (3 MAIN MINERALIZED ZONES (3 WERE MINED)/ 2 SHAFTS
         (CODED AS COMPONENTS)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM GR 85/PG 34-38)
COMMENTS (FOY OFFSET)

PRODUCTION:  1943 TO 1957      205,008 TONNES ORE
   0 740% CU   1 010% NI
   COMMENTS (PROD 1943-44/1953-57/CAL GRADE)
   REFERENCE (ODM MRC 12/ PG 243)

MAP(S) (GEOL 2133 ODM/GEOL 2170 ODM)

CARD,K D  1969
      GEOLOGY OF LEINSTER-BOWELL AREA/ ODM GEOL REPT 55/
      PG 34-36/ *AC*
SMKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 243/ *CG*


41-870

MILNET MINE
NI(4) CU(4) AU(4) PT(4) PD(4) RH(4) RU(4) IR(4)

41/1/15  46 49 21   080 51 59   PARKIN TP/ LOT 5 CON 2
GEOLOGICAL PROVINCE (SUPERIOR PROVINCE)
ENTITY CODED (C)  COMMENTS (SHAFT(UNDER BUILDING)/PEARSON)
CANMINDEX NUMBER (008847)  NMI NUMBER (041/1/15/NI/001)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (IRREGULAR IN INTRUSIVE ROCKS)
GEOLOGY (MASS-DISS/BRECC ZONE IN QTZ DIORITE DYKE &ADJ SEDS)

REMARKS (PARKIN OFFSET FROM SUDBURY IRRUPTIVE/ 2 OREBODIES
         200 FT APART)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS/HURONIAN
      UNDIFFERENTIATED)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
STRIKE (030)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM GR 80/ PG 54-57)
COMMENTS (2 OREBODIES APPROX 200 FT APART IN NORTHERN END
          OF PARKIN OFFSET)

PRODUCTION:  1952 TO 1954      182,545 TONNES ORE
   1 550% CU   1 500% NI
   COMMENTS (4881458 LBS CU WERE PRODUCED)
   REFERENCE (NMI/ 1989 ODM MRC 12/ PG 259)

MAP(S) (GEOL 2180 ODM/GEOL P367 ODM)

THOMSON,J E  1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 94-95/ *CG*
MEYN,H D  1970
      GEOLOGY OF HUTTON AND PARKIN TOWNSHIPS/ ODM GEOL
      REPT 80/ PG 54-58
SMKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 259/ *CG*
----  1956
      / CANADIAN MINING JOURNAL NOV 1956/ VOL 77/ NO 11/
      PG 178/ *I*


41-461

NEW DOMINION
CU(2) NI(2)

41/1/15  46 48 16   080 54 59   NORMAN TP/ LOT 9-10 CON 4
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP 2170)
CANMINDEX NUMBER (008408)  NMI NUMBER (041/1/15/CU/002)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLFDS ALONG NORTH BOUNDARY OF SUDBURY IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (NMI)
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RESERVE   1955      40,823 TONNES 0 760% CU
   0 900% NI
   REFERENCE (NMI)

MAP(S) (GEOL P387 ODM/GEOL 2381 ODM)

THOMSON,J E  1957
     COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
     ODM METAL RESOURCES CIRCULAR NO 2/ PG 96/ *CG*
----
     / THE NORTHERN MINER/ APRIL 30 1953/ JAN 27 & FEB
     3 & FEB 24 & MAR 17 & MAR 31 1955/ JUNE 21 1956


41-102

WHISTLE
NI(?) CU(?) PT(?) AU(?)

41/1/15  46 46 23   080 52 29   NORMAN TP/ LOT 5 CON 4-5
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (CU COMMODITY FILE)
CANMINDEX NUMBER (008715)  NMI NUMBER (041/1/15/NI/002)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (PROSPECT)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (SLPDS IN SUBLAYER OF SUDBURY NICKEL IRRUPTIVE)

TYPE (MAGMATIC NI-CU)
SUBTYPE (SUDBURY SUBLAYER/OFFSETS)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (SUDBURY NICKEL IRRUPTIVE AND OFFSETS)
ORE MNRLS (PYRRHOTITE/PENTLANDITE/CHALCOPYRITE/PYRITE)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CU COMMODITY FILE)

MAP(S) (GEOL 2170 ODM/GEOL 2361 ODM)

SHKLANKA,R  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 258/ *CL*


41-111A

YEMAGAMI CHALCOPYRITE ZONE
CU(3) AU(3) AG(3) ZN(8) PB(8)

41/1/16  46 57 42   080 20 30
GEOLOGICAL PROVINCE (SUPERIOR PROVINCE)
ENTITY CODED (S)  COMMENTS (SHAFT/ ODM MAP 2057)
CANMINDEX NUMBER (008431)

CU DEPOSIT TYPE (VOLCANIC EXHALATIVE)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (DISSEMINATIONS/VEINS/LENSES IN FOOTWALL RHYOLITE)

REMARKS (ZONE OCCURS SOUTH OF AND 30-65 M BELOW FOOTWALL
         CONTACT WITH DIORITE)

TYPE (VOLCANIC EXHALATIVE)
SUBTYPE (PE-CU)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (ARCHEAN METAVOLCANIC ROCKS)
ORE MNRLS (CHALCOPYRITE)
REL TO NIP.DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM GR 28/PG 25-27)
COMMENTS (MASSIVE SLPD ORE & FISSURE FILLING VEINS)

PRODUCTION:  1959 TO MAR/1972      810,085 TONNES ORE
   5 720% CU  18.45G/T AU  305 48G/T AG
   REFERENCE (NMI)

RESERVE:  1958      27,215 TONNES 22 000% CU
   COMMENTS (NO 1 OREBODY)
   REFERENCE (NMI)
RESERVE:  1958      4,535 TONNES 7.000% CU
   COMMENTS (NO 2 OREBODY)
   REFERENCE (NMI)
RESERVE:  JUN/1969      52,223 TONNES 4 760% CU
   REFERENCE (NMI)

MAP(S) (GEOL 2057 ODM)

MOOREHOUSE,W.W.  1946
     THE NORTHEASTERN PORTION OF THE YEMAGAMI LAKE
     AREA/ ODM ANN REPORT/ VOL 51 PT 6 1942
----
     /ODM ANN REPORTS/ VOL 55 1956 PT 2 PG 120-121/
     VOL 56 1957 PT 2 PG 7-8/ VOL 57 1958 PT 2 PG 8-9/
     VOL 58 1959 PT 2 PG 4/ VOL 59 1960 PT 2 PG 4/ VOL
     70 1961 PT 2 PG 103-104/ VOL 71 1962 PT 2 PG 110-1
SIMONY,P.S.  1964
     NORTHWESTERN YEMAGAMI AREA/ ODM GEOL REPORT NO 28/
     PG 25-27
SHKLANKA,R.  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 201/ *CC*


41-111B

YEMAGAMI CU-NI-CO ZONES
CU(2) NI(2) CO(2)

41/1/16  46 58 00   080 20 30   PHYLLIS TP
GEOLOGICAL PROVINCE (SUPERIOR PROVINCE)
ENTITY CODED (C)  COMMENTS (/ COPPER COMMODITY FILE)
CANMINDEX NUMBER (008431)

CU DEPOSIT TYPE (MAGMATIC NI-CU)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN INTRUSIVE ROCKS)
GEOLOGY (PYRITIC ZONE IN DIORITE ALONG FOOTWALL CONTACT)

REMARKS (ZONES COVER A STRIKE LENGTH OF 8 KM/NOT ABLE TO
         PRODUCE ECONOMIC CONC)

TYPE (MAGMATIC NI-CU)
SUBTYPE (OTHER THAN SUDBURY)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (MAFIC INTRUSIONS - UNDIFFERENTIATED)
ORE MNRLS (CHALCOPYRITE/MILLERITE/GERSDORFFITE)
REL TO NIP.DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM GR 28/PG 25-27)
COMMENTS (LOW GRADE PYRITIC CU-NI-CO ORE)

RESERVE   1957      2,267,981 TONNES 1 000% CU
   0 600% NI
   COMMENTS (0 1 CO/ LOW GRADE ZONE)
   REFERENCE (NMI)
RESERVE   JUN/1969      698,532 TONNES 1 040% CU
   0 460% NI
   COMMENTS (LOW GRADE ZONE)
   REFERENCE (NMI)

MAP(S) (GEOL 2057 ODM/GEOL P387 ODM)

BERGEY,W.R.  1957
     DISCOVERY OF COPPER-NICKEL OREBODIES AT YEMAGAMI
     MINE ONTARIO/ IN/ METHODS AND CASE HISTORIES IN
     MINING GEOPHYSICS/ CIM CONGRESS VOL/ PG 168-175
SIMONY,P.S.  1964
     NORTHWESTERN YEMAGAMI AREA/ ODM GEOL REPORT NO 28/
     PG 25-27
ROSE,E.R.  1966
     THE COPPER-NICKEL DEPOSITS OF YEMAGAMI ISLAND
     ONTARIO/ ECON GEOL/ VOL 61/ PG 27-43
SHKLANKA,R.  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES NO 12/ *CC*
FRANKLIN,J.  1967
     THE PYRITE ZONE OF THE YEMAGAMI MINE/ MSC THESIS/
     CARLETON UNIVERSITY


41-113

HERMINA MINE
CU(3) AU(?)

41/J/01  48 14 58   082 10 32   SALTER TP/ SEC 7/ 17/ 18
GEOLOGICAL PROVINCE (SUPERIOR PROVINCE)
ENTITY CODED (S)  COMMENTS (SHAFT/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009027)  NMI NUMBER (041/J/01/CU/003)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QUARTZ VEINS WITH SULPHIDES CUT DIABASE & GRANITE)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (ARCHEAN GRANITES/HURONIAN GABBRO-ANORTHOSITE)
ORE MNRLS (CHALCOPYRITE/PYRITE)
GANGUE (QUARTZ)
VEIN TYPE (SIMPLE VEIN(S))  STRIKE (225)  DIP (85)
REL TO NIP.DIABASE (UNCERTAIN OR OTHER)
SOURCE (ODM GR 138/PG 108-111)
COMMENTS (VEIN TRACED FOR 2500 FT/APPROX 35 FT WIDE)

PRODUCTION:  1904 TO 1909      11,814 TONNES ORE
   3.670% CU
   COMMENTS (CALCULATED GRADE)
   REFERENCE (NMI/ 1957 ODM MRC 2/ PG 92)

MAP(S) (GEOL 2308 ODM/GEOL 2418 DGS)

COLEMAN,A.P.  1913
     THE MASSEY COPPER MINE AREA/ ODM ANN REPT/ VOL 22
     PART 1 1913/ PG 155-180/ *AC*
COLLINS,W.H.  1925
     NORTH SHORE OF LAKE HURON/ GSC MEMOIR 143/ PG
     129-131/ *I*
MOORE,E.S.  1930
     ORE DEPOSITS NEAR THE NORTH SHORE OF LAKE HURON/
     ODM ANN REPT/ VOL 38 PART 7 1929/ PG 28-30/ *AI*
----
     / ODM ANN REPTS 1904-1910/ VOL 13(PG 79)VOL 14(PG
     61)VOL 15(PG 68)VOL 16(PG 88)VOL 17(PG 79)VOL
     18(PG 89)VOL 19(PG 87)
ROBERTSON,J.A.  1978
     GEOLOGY OF THE MASSEY AREA DISTRICTS OF ALGOMA
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      MANITOULIN AND SUDBURY/ ODM GR 136/ PG 108-110/
      *A1*
PEARSON,W.N  1979
      COPPER METALLOGENY NORTH SHORE REGION OF LAKE
      HURON/ GSC PAPER 78-1A/ PG 290/ *AC*
SMKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 262/ *I*


41-891

MASSEY MINE MAIN SHAFT
CU(3)

41/J/01  46 14 10   082 07 09   SALTER TP/ SEC 15
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (SHAFT/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009029)  NMI NUMBER (041/J/01/CU/002)

CU DEPOSIT TYPE (VOLCANIC EXHALATIVE)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN SEDIMENTARY ROCKS)
GEOLOGY (SLPDS IN QTZ-RICH BRECCIATED ZONE IN METASED ROCKS)

TYPE (VOLCANIC EXHALATIVE)
SUBTYPE (CHERTY QUARTZITE)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (HURONIAN UNDIFFERENTIATED)
ORE MNRLS (CHALCOPYRITE/PYRITE)
GANGUE (QUARTZ/OTHER)
STRIKE (090)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (WNP FIELD DATA)
COMMENTS (SUDBURY TYPE BRECCIA AT MAIN SHAFT/POST ORE)

PRODUCTION   1968 TO 1970      13,371 TONNES ORE
   2.500% CU
   REFERENCE (ODM GR 136/ PG 115)
PRODUCTION   1904 TO 1917      287 TONNES REFINED METAL
   99.999% CU
   COMMENTS (PRODUCTION 1904-08/ 1915-17)
   REFERENCE (ODM GR 136/ PG 113)

MAP(S) (GEOL 2306 ODM/GEOL 2419 OGS)

COLEMAN,A.P  1913
      THE MASSEY COPPER MINE AREA/ ODM ANN REPT / VOL
      22 PART 1 1913/ PG 155-160/ *AC*
COLLINS,W.H  1925
      NORTH SHORE OF LAKE HURON/ GSC MEMOIR 143/ PG
      129-131/ *I*
MOORE,E.S  1930
      ORE DEPOSITS NEAR THE NORTH SHORE OF LAKE HURON/
      ODM ANN REPT/ VOL 38 PART 7 1929/ PG 28-30/ *AC*
THOMSON,J.E  1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 87/ *GI*
----  1917
      THE MASSEY COPPER MINE ONTARIO/ ENGINEERING AND
      MINING JOURNAL/ AUG 4 (1917)/ PG 193
ROBERTSON,J.A  1976
      GEOLOGY OF THE MASSEY AREA DISTRICTS OF ALGOMA
      MANITOULIN AND SUDBURY/ ODM GR 136/ PG 111-116/
      *A1*
SMKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 262-263/
      *I*


41-893

MASSEY MINE NO 4 SHAFT
CU(3) AG(3) AU(3)

41/J/01  46 14 17   082 07 50   SALTER TP/ SEC 16
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (SHAFT/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009029)  NMI NUMBER (041/J/01/CU/002)

CU DEPOSIT TYPE (VOLCANIC EXHALATIVE)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN SEDIMENTARY ROCKS)
GEOLOGY (SLPDS IN QTZ-RICH ZONE IN METASED ROCKS)

REMARKS (SUPERGENE COPPER ZONE)

TYPE (VOLCANIC EXHALATIVE)
SUBTYPE (CHERTY QUARTZITE)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (HURONIAN UNDIFFERENTIATED)
ORE MNRLS (CHALCOPYRITE/PYRITE/CHALCOCITE/BORNITE)
GANGUE (QUARTZ/OTHER)
ALTERATION (SUPERGENE COPPER ENRICHMENT)
STRIKE (090)  DIP (90)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (WNP FIELD DATA)
COMMENTS (IMPORTANT SUPERGENE CU ZONE APPROX 75 FT THICK)

PRODUCTION   FEB/1969 TO 1970      11,902 TONNES ORE
   COMMENTS (CUSTOM MILLED/ NO GRADE DATA)
   REFERENCE (ODM GR 136/ PG 115)

RESERVE:  1965      29,039 TONNES 3.550% CU
   0.736/T AU  17.14G/T AG
   REFERENCE (ODM GR 136/ PG 114-115)

MAP(S) (GEOL 2306 ODM/GEOL 2419 OGS)

COLEMAN,A.P  1913
      THE MASSEY COPPER MINE AREA/ ODM ANN REPT/ VOL 22
      PART 1 1913/ PG 155-160/ *AC*
COLLINS,W.H  1925
      NORTH SHORE OF LAKE HURON/ GSC MEMOIR 143/ PG
      129-131/ *I*
MOORE,E.S  1930
      ORE DEPOSITS NEAR THE NORTH SHORE OF LAKE HURON/
      ODM ANN REPT/ VOL 38 PART 7 1929/ PG 28-30/ *AC*
THOMSON,J.E  1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 87/ *GI*
----  1917
      THE MASSEY COPPER MINE ONTARIO/ ENGINEERING AND
      MINING JOURNAL AUG 4 (1917)/ PG 193
ROBERTSON,J.A  1976
      GEOLOGY OF THE MASSEY AREA DISTRICTS OF ALGOMA
      MANITOULIN AND SUDBURY/ ODM GR 136/ PG 111-116/
      *A1*
SMKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 262-263/
      *I*


41-115

PATER MINE
CU(3) AU(3) AG(3)

41/J/02  46 12 25   082 38 57   SPRAGGE TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (SHAFT/ ODM MAP 2188)
CANMINDEX NUMBER (009040)  NMI NUMBER (041/J/02/CU/001)

CU DEPOSIT TYPE (VOLCANIC EXHALATIVE)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (CONCORDANT IN VOLCANIC ROCKS)
GEOLOGY (DEFORMED MASSIVE SLPDS IN MAFIC METAVOLCANICS)

REMARKS (CHERTY QTZITE (EXHALATIVE CHERT(?)) ASSOC WITH ORE)

TYPE (VOLCANIC EXHALATIVE)
SUBTYPE (FE-CU)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (HURONIAN VOLCANIC ROCKS)
ORE MNRLS (CHALCOPYRITE/PYRRHOTITE/PYRITE)
GANGUE (QUARTZ/OTHER)
ALTERATION (SILICIFICATION)
STRIKE (090)  DIP (85)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (NRC 13/PG 85/ODM GR 78/PG90-94)
COMMENTS (ORE ZONE AVG WIDTH 2.7M/MINED TO DEPTH OF 1280M/
         LATERAL WORKINGS UP TO 396M)

PRODUCTION:  FEB/1951 TO APR/1970      2,078,726 TONNES ORE
   1.720% CU  0.06G/T AU  3.12G/T AG
   COMMENTS (CALCULATED GRADES/ AG 1964-70)
   REFERENCE (SMD 000874 (NMI))
PRODUCTION:  1951 TO 1970      2,078,726 TONNES ORE
   1.716% CU  0.07G/T AU  3.08G/T AG
   COMMENTS (CALC GRADE)
   REFERENCE (ODM SMDR 000874)

RESERVE:  1957      938,870 TONNES 1.800% CU
   COMMENTS (INCLUDES 10% DILUTION)
   REFERENCE (NMI)

MAP(S) (GEOL 2186 ODM/GEOL P304 ODM)

ROBERTSON,J.A  1970
      GEOLOGY OF SPRAGGE AREA/ ODM GEOL REPT 78
KNIGHT,C.J  1963
      GEOLOGY OF PATER MINE/ UNPUBLISHED BASC THESIS/
      UNIVERSITY OF TORONTO
BEGEN,R.M  1963
      GEOLOGY OF THE PATER MINE-BLIND RIVER AREA
      ONTARIO/ UNPUBLISHED MSC THESIS/ MICHIGAN
      TECHNOLOGICAL UNIVERSITY 1963/ HOUGHTON MICHIGAN
SMKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 85
----
      /ODM ANNUAL REPTS/1957-VOL66 PT 1 PG 181/1958-VOL
      67 PT 2 PG 182/1960-VOL 69 PT 2 PG 122/1960-VOL
      70 PG 103/1961-VOL 7 PG 108/1962-VOL 72 PG 113/
      1963-VOL 73 PG 109/1964-VOL 74 PG 111
KILLIN,A.F  1983
      THE CANADIAN COPPER INDUSTRY-1982/ INFO BULLETIN
      MR 88/ MINERAL RESOURCES DIVISION/ DEPT OF MINES
      & TECHNICAL SURVEYS/ OTTAWA/ PG 47
PEARSON,W.N  1979
      COPPER METALLOGENY NORTH SHORE REGION OF LAKE
      HURON/ GSC PAPER 78-1A/ PG 298/ *AC*
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Appendix 1 (cont.)

41-117

BAR-FIN MINE
CU(3)

41/J/03 46 14 04 083 05 00 THOMPSON TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (SHAFT/ ODM MAP 2012)
CANMINDEX NUMBER (009039) NMI NUMBER (041/J/03/CU/001)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QUARTZ-SULPHIDE VEINS CUT GOWGANDA SEDIMENTS)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE/PYRITE/SPECULARITE)
GANGUE (QUARTZ/CARBONATE)
VEIN TYPE (VEIN BRECCIAS) STRIKE (074)
REL TO NIP DIABASE (UNCERTAIN OR OTHER)
SOURCE (WNP FIELD DATA)
COMMENTS (2 FISSURE VEINS APPROX 600 FT APART)

PRODUCTION 1906 1,360 TONNES ORE
4 000% CU
REFERENCE (NMI)

MAP(S) (GEOL 2012 ODM/GEOL P304 ODM)

ROBERTSON,J.A. 1963
GEOLOGY OF THE IRON BRIDGE AREA/ ODM GEOLOGICAL
REPORT 17/ PG 62-63/ *A*
ROBERTSON,J.A. 1960
GENERAL GEOLOGY OF PART OF THE BLIND RIVER AREA/
UNPUBLISHED M SC THESIS QUEENS UNIVERSITY/ VOL 1/
PG 224-225
THOMSON,J.E. 1957
COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
ODM METAL RESOURCES CIRCULAR NO 2/ PG 71
SMKLANKA,R. 1969
COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 67

/ NORTHERN MINER/ DEC 30 1953/ FEB 25 1954/ OCT 8
1955/ NOV 1 1956

ODM ANNUAL REPTS/ 1906- VOL 15 PT 1 PG 69/ 1907-
VOL 16 PT 1 PG 41

REPORT ON THE MINING AND METALLURGICAL INDUSTRIES
OF CANADA 1907-08/ MINES BRANCH (DEPT OF MINES)
OTTAWA/ REPT 24/ PG 399-401

41-121

BALD DOME
CU(S)

41/J/05 46 21 36 083 45 48 PLUMMER ADDITIONAL TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (TRENCH/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009034) NMI NUMBER (041/J/05/CU/024)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (VEIN SYSTEM & BRECCIA ALONG DIABASE-SILTSTONE CONT)

REMARKS (ZONE DIPS STEEPLY SOUTH/ WIDTH 80-100 FEET/
AVERAGE GRADE 0.25% CU)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION/NIPPISING DIABASE)
ORE MNRLS (CHALCOPYRITE/PYRITE)
GANGUE (QUARTZ/CARBONATE)
VEIN TYPE (VEIN BRECCIAS) STRIKE (045)
REL.TO NIP.DIABASE (CUTS SED.ROCKS NEAR DIABASE/GABBRO INTRUSION/
--ALONG DIABASE/SEDIMENT CONTACT/CUTS DIABASE/GABBRO)
SOURCE (ODM MRC 12/PG 52/WNP FIELD)
COMMENTS (DDH OVER 500FT LENGTH/ZONE 80-100FT WIDE(TRUE)/
AVG GRADE 0.25% CU)

RESERVE: 1958 830,388 TONNES 0.250% CU
COMMENTS (CALCULATED TONNAGE)
REFERENCE (NMI)

MAP(S) (GEOL 1418A GSC/GEOL P303 ODM)

THOMSON,J.E. 1957
COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
ODM METAL RESOURCES CIRCULAR NO 2/ PG 73
SMKLANKA,R. 1969
COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 52

/ ODM RESIDENT GEOLOGIST FILE/ SSM-1232/-1233
PEARSON,W.N. 1978
COPPER METALLOGENY NORTH SHORE REGION OF LAKE
HURON/ GSC PAPER 78-1A/ PG 290/ *AC*

41-123

BRUCE MINES
CU(3) AG(3) AU(3)

41/J/05 46 18 03 083 46 48 PLUMMER ADDITIONAL TOWNSHIP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C) COMMENTS (TAYLOR WORKINGS/GSC MAP32-1962)
CANMINDEX NUMBER (009030) NMI NUMBER (041/J/05/CU/002)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (SULPHIDES IN QTZ-CARBONATE VEINS CUTTING DIABASE)

REMARKS (AREA WITH MINERALIZED VEINS DIVIDED INTO 4
SECTIONS#)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (NIPPISING DIABASE)
ORE MNRLS (CHALCOPYRITE/PYRITE)
GANGUE (QUARTZ/CALCITE/BARITE)
VEIN TYPE (SIMPLE VEIN(S)) STRIKE (145)
REL TO NIP DIABASE (CUTS DIABASE/GABBRO)
SOURCE (GSC MEMOIR 383/PG 72-73/NMI)
COMMENTS (NO 1 VEIN 8000 FT LONG/NO 2 VEIN APPROX 80 FT W
OF NO 1/1300 FT LONG)

PRODUCTION 1848 TO 1875 43,175 TONNES CONCENTRATE
20.000% CU
COMMENTS (BRUCE/ COPPER BAY/ WELLINGTON)
REFERENCE (1969 ODM M.R.C #12/ PG 53)
PRODUCTION 1848 TO 1875 75,382 TONNES CONCENTRATE
20.080% CU
COMMENTS (APPROX 300000 TONS ORE TREATED)
REFERENCE (NMI)

RESERVE 1955 142,428 TONNES 1.100% CU
COMMENTS (IN 2 ZONES)
REFERENCE (NMI)

MAP(S) (GEOL 2419 OGS/GEOL 32-1962 GSC)

SMKLANKA,R 1969
COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 53-54/
G)
---- 1890
/ REPORT OF THE ROYAL COMMISSION ON MINERAL
RESOURCES OF ONTARIO-TORONTO/ PG 81-92
KNIGHT,C.W. 1915
THE NORTH SHORE OF LAKE HURON/ ODM ANN REPT/ VOL
24 PART 1 1915/ PG 231-235/ *AC*
---- 1917
/ REPORT OF THE ROYAL ONTARIO NICKEL COMMISSION/
TORONTO/ PG 20-24

---- / ODM ANN REPTS/ VOLS 10-33/ 1900-1922
/ CANADIAN MINING JOURNAL/ APRIL 1907/ PG 47/
JULY 1939/ PG 424-428/ *CG*
LOGAN,W.E. 1849
REPORT ON NORTH SHORE OF LAKE HURON/ GSC REPT OF
PROGRESS 1848-1849

41-874

BRUCE MINES-TAYLOR SECTION
CU(3) AG(3) AU(3)

41/J/05 46 18 03 083 46 48 PLUMMER ADDITIONAL TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S) COMMENTS (WORKINGS/ GSC MAP 32-1962)
CANMINDEX NUMBER (009030) NMI NUMBER (041/J/05/CU/002)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (SLFDS IN QTZ-CARBONATE VEINS CUTTING DIABASE)

REMARKS (2400 FT SOUTHEST OF WELLINGTON SECTION#SHAFT TO
155FT/DRIFTS FOR 2000)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (NIPPISING DIABASE)
ORE MNRLS (CHALCOPYRITE/PYRITE)
GANGUE (QUARTZ/CALCITE/BARITE)
VEIN TYPE (SIMPLE VEIN(S)) STRIKE (145)
REL.TO NIP DIABASE (CUTS DIABASE/GABBRO)
SOURCE (GSC MEMOIR 383/PG 72-73/NMI)

PRODUCTION 1915 TO 1921 119,480 TONNES ORE
COMMENTS (EXCLUSIVE 1915/ NO GRADE DATA)
REFERENCE (NMI/ 1969 ODM M.R.C.#12/ PG 53)

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MAP(S) (GEOL 2419 OGS/GEOL 32-1962 GSC)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 53-54/
      *G1*
----    1890
      / REPORT OF THE ROYAL COMMISSION ON MINERAL
      RESOURCES OF ONTARIO-TORONTO/ PG 91-92
KNIGHT,C W.  1915
      THE NORTH SHORE OF LAKE HURON/ ODM ANN REPT/ VOL
      24 PART 1 1915/ PG 231-235/ *A1*
----    1917
      / REPORT OF THE ROYAL ONTARIO NICKEL COMMISSION/
      TORONTO/ PG 20-24
----
      / ODM ANN REPTS/ VOLS 10-33/ 1900-1922
----
      / CANADIAN MINING JOURNAL/ APRIL 1907/ PG 47 AND
      JULY 1939/ PG 424-426/ *CC*
LOGAN,W.E  1849
      REPORT ON NORTH SHORE OF LAKE HURON/ GSC REPT OF
      PROGRESS 1848-49


41-124

CAMPBELL-DUKES NO 1
CU(2)

41/J/05  46 20 46   083 49 34   JOHNSTON/PLUMMER ADDITIONAL TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (TRENCH/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009018)  NMI NUMBER (041/J/05/CU/023)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ SLFD VEINS ALONG DIABASE-QUARTZITE CONTACT)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE/SPECULARITE)
GANGUE (QUARTZ/CARBONATE)
ALTERATION (SILICIFICATION/HEMATIZATION)
VEIN TYPE (VEIN SWARM(S)/VEIN BRECCIAS)  STRIKE (090)
REL TO NIP DIABASE (UNCERTAIN OR OTHER)
SOURCE (WNP FIELD DATA)
COMMENTS (MINOR OCCURRENCE)

RESERVE   1958      29,937 TONNES 1 200% CU
   REFERENCE (NMI/ 1987 ODM MRC 2/ PG 73)

MAP(S) (GEOL 2419 OGS/GEOL 1414A GSC)

----
      / ODM RESIDENT GEOLOGIST FILES/ SSM-1232 AND -1324
SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 54/ *I*


41-136

ROCK LAKE MINE
CU(3) AG(?) AU(?)

41/J/05  46 28 21   083 43 59   ABERDEEN TP/ LOT 3 CON 1
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (SHAFT/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009028)  NMI NUMBER (041/J/05/CU/001)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (VEINS IN FAULT BRECCIA ZONE CUTTING SED ROCKS)

REMARKS (ZONE TRACED FOR 9000 FT/12-20 FT WIDE AT MINE/
         GRADE 0.11-0 5% CU)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION/NIPPISING DIABASE)
ORE MNRLS (CHALCOPYRITE/PYRITE/SPECULARITE)
GANGUE (QUARTZ/ANKERITE)
VEIN TYPE (VEIN BRECCIAS)  STRIKE (015)  DIP (80)
REL TO NIP DIABASE (UNCERTAIN OR OTHER)
SOURCE (GSC MEMOIR 125/PG 126)
COMMENTS (VEIN 12-20 FT WIDE AT MINE)

PRODUCTION   1901 TO 1903      39,281 TONNES ORE
   1.700% CU
   COMMENTS (CALCULATED GRADE)
   REFERENCE (NMI)

MAP(S) (GEOL 2419 OGS/GEOL 1414A GSC)

COLLINS,W.H.  1925
      NORTH SHORE OF LAKE HURON/ GSC MEMOIR 143/ PG 128/
      *I*
----    1895
      / ODM (BUREAU OF MINES) REPT 1895 VOL 4 PT 1/ PG
      19 AND 124
----    1902
      / ODM (BUREAU OF MINES) REPT 1902 VOL 11/ PG 22
      AND 270-271
SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 14/ *G1*
THOMSON,J.E  1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 81/ *I*
----
      / ODM RESIDENT GEOLOGIST FILES/ SSM-41 AND -42
FRAREY,M.J  1977
      GEOLOGY OF THE HURONIAN BELT BETWEEN SAULT STE
      MARIE & BLIND RIVER/ GSC MEM 383/ PG 73


41-137

STEINBERG
CU(3)

41/J/05  46 20 49   083 48 03   PLUMMER ADDITIONAL TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (TRENCH/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009035)  NMI NUMBER (041/J/05/CU/022)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QUARTZITE BRECCIA WITH QTZ-CARBONATE-SLFD MATRIX)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE/PYRITE)
GANGUE (QUARTZ/ANKERITE)
ALTERATION (SILICIFICATION/HEMATIZATION)
VEIN TYPE (VEIN BRECCIAS)  STRIKE (180)  DIP (55)
REL TO NIP DIABASE (CUTS SED ROCKS NEAR DIABASE/GABBRO INTRUSION)
SOURCE (ODM MRC 12/PG 56-57/WNP FIELD)
COMMENTS (FRAGMENTS ALIGNED/DRILLED OVER 800 FT LENGTH TO
         DEPTH OF 400 FT)

PRODUCTION   1918      128 TONNES ORE
   1 590% CU
   COMMENTS (SHIPPED TO SUDBURY)
   REFERENCE (NMI/ 1969 ODM MRC 12/ PG 58)

RESERVE   1958      112,490 TONNES 1 100% CU
   COMMENTS (LENGTH 200 FT/ DEPTH 200 FT)
   REFERENCE (NMI/ 1969 ODM MRC 12/ PG 58)
RESERVE   1958      80,781 TONNES 1.820% CU
   REFERENCE (SSM-1232)

MAP(S) (GEOL 1414A GSC/GEOL P303 ODM)

THOMSON,J.E  1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 73
SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 56-57
----
      / ODM RESIDENT GEOLOGIST FILES/ SSM-1232/-1235
PEARSON,W.N  1979
      COPPER METALLOGENY NORTH SHORE REGION OF LAKE
      HURON/ GSC PAPER 79-1A/ PG 290/ *AC*


41-145

BILTON OPTION
CU(3)

41/J/05  46 17 18   083 10 38   PATTON TP/ SEC 27-28
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C)  COMMENTS (TRENCH/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (008474)  NMI NUMBER (041/J/05/CU/001)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ VEINS IN GOWGANDA FM)

REMARKS (2 ZONES- EAST & WEST -200 FT APART/ MINOR ORE
         SHIPMENTS -1988)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE/PYRITE/SPECULARITE/MAGNETITE)
GANGUE (QUARTZ/SIDERITE/CALCITE)
VEIN TYPE (VEIN SWARM(S)/VEIN BRECCIAS)  STRIKE (280)  DIP (85)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM GR 17/PG 55-58/WNP FIELD)
COMMENTS (ZONE 2800 FT LONG/TESTED TO DEPTH OF 480FT)

RESERVE   1977      453,582 TONNES 1 700% CU
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Appendix 1 (cont.)

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    REFERENCE (P.MCLAIN PER COMM 1977(TO WNP))
RESERVE   1956      86,327 TONNES 1 720% CU
    COMMENTS (WIDTH 7.3 FT/DEPTH 200 FT)
    REFERENCE (NMI)
RESERVE   1962      27,215 TONNES 2 000% CU
    COMMENTS (MAX TONNAGE/ EST BY RIO TINTO)
    REFERENCE (1963 ODM GEOL REPT/ PG 56)

MAP(S) (GEOL 2012 ODM/GEOL 1416A GSC)

ROBERTSON,J.A.  1963
      GEOLOGY OF THE IRON BRIDGE AREA ONTARIO/ ODM GEOL
      REPT 17/ PG 55/ *AC*
SHKLANKA,R.  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 48/ *CG*
THOMSON,J.E.  1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 72/ *CG*
ROBERTSON,J.A.  1960
      GENERAL GEOLOGY OF PART OF THE BLIND RIVER AREA/
      UNPUBLISHED MSC THESIS QUEENS U/ VOL 1/ 1960 PG
      227


41-127

BOYEA LAKE-ADIT AREA   (EAST ADIT & WEST ADIT AREAS)
CU(2)

41/J/06  46 25 50   083 06 50   MONTGOMERY TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C)  COMMENTS (NMI)
CANMINDEX NUMBER (008475)  NMI NUMBER (041/J/06/CU/052)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ-SLFD VEINS CUT GOWGANDA FM)

REMARKS (ADIT AREA SUBDIVIDED INTO EAST ADIT & WEST ADIT
        (BOTH WITH RESERVES))

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PD)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE/SPECULARITE)
GANGUE (QUARTZ/CARBONATE)
VEIN TYPE (UNCERTAIN OR OTHER)  STRIKE (105)  DIP (75)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (NMI)

RESERVE   1970      40,823 TONNES 1 880% CU
    COMMENTS (ADIT AREA WEST ZONE)
    REFERENCE (NMI)
RESERVE   197)      75,286 TONNES 2 100% CU
    COMMENTS (ADIT EAST ZONE/ 2 ORE SHOOTS)
    REFERENCE (NMI)

MAP(S) (GEOL 3032 ODM/GEOL 1416A GSC)

THOMSON,J.E.  1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 82/ *CG*
SHKLANKA,R.  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 43-44/
      *CG*
ROBERTSON,J.A.  1963
      GEOLOGY OF THE IRON BRIDGE AREA/ ODM GEOL REPORT
      NO 17/ *AB*
----
      / ODM TORONTO ASSESSMENT WORK LIBRARY/ DRILL LOG
      REPORT/ SUDBURY CONTACT MINES LTD/ 1952-53
----
      / ODM SOURCE MINERAL DEPOSIT RECORD/ 000783


41-126

BOYEA LAKE-EAST ZONE
CU(2)

41/J/06  46 25 30   083 05 45   MONTGOMERY TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (NMI)
CANMINDEX NUMBER (008476)  NMI NUMBER (041/J/06/CU/052)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ-SLFD VEINS CUT GOWGANDA FM)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PD)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE/SPECULARITE)
GANGUE (QUARTZ/CARBONATE)
VEIN TYPE (UNCERTAIN OR OTHER)  STRIKE (105)  DIP (75)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (NMI)

RESERVE   1970      85,647 TONNES 2 310% CU
    COMMENTS (EAST ZONE/ DEPTH TO 250 FEET)
    REFERENCE (NMI/ 1970 MM NOV 28/ PG 107)

MAP(S) (GEOL 2032 ODM/GEOL 1416A GSC)

THOMSON,J.E.  1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 82/ *CG*
SHKLANKA,R.  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 43-44/
      *CG*
ROBERTSON,J.A.  1963
      GEOLOGY OF THE IRON BRIDGE AREA/ ODM GEOL REPORT
      NO 17/ *AB*
----
      / ODM TORONTO ASSESSMENT WORK LIBRARY/ DRILL LOG
      REPORT/ SUDBURY CONTACT MINES LTD/ 1952-53
----    1973
      / ODM SOURCE MINERAL DEPOSIT RECORD/ 000783


41-194

CROWNBRIDGE   (IRON BRIDGE/ CANNON)
CU(2)

41/J/06  46 29 34   083 02 28   KAMICHISITIT TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C)  COMMENTS (ADIT/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009004)  NMI NUMBER (041/J/06/CU/005)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ VEINS IN FAULT ZONE CUTTING GOWGANDA FM)

REMARKS (SEVERAL ZONES)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PD)+/-SPECUL)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE/PYRITE)
GANGUE (QUARTZ/CARBONATE)
ALTERATION (HEMATIZATION/SILICIFICATION)
VEIN TYPE (VEIN SWARM(S)/VEIN BRECCIAS)  STRIKE (285)  DIP (70)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM MRC 12/PG 96/WNP FIELD)
COMMENTS (ZONE 4200 FT LONG/WIDTH 1-30 FT WITH AVGS 5 FT/
         EXPLORED TO DEPTH OF 1000 FT)

RESERVE   1964      435,448 TONNES 2 050% CU
    COMMENTS (MAIN ZONE)
    REFERENCE (NMI/ 1964 MM OCT 29)
RESERVE   1960      172,385 TONNES 2 030% CU
    COMMENTS (DEPTH 500 FT)
    REFERENCE (NMI)
RESERVE   1964      122,469 TONNES 2 000% CU
    COMMENTS (J ZONE)
    REFERENCE (NMI)

MAP(S) (GEOL 1416A GSC/GEOL P304 ODM)

----    1988
      CROWNBRIDGE COPPER MINES LTD/ CANADIAN MINES
      HANDBOOK 1988-89/ PG 108/ *I*
----
      / NORTHERN MINER/ MAY 27 1988/ MARCH 10 & JULY 28
      1988/ NOVEMBER 16 & DECEMBER 28 1987
----   / ODM RESIDENT GEOLOGIST FILES/ SSM-450/-452/-518
SHKLANKA,R.  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 94
THOMSON,J.E.  1952
      PRELIMINARY REPORT ON COPPER NICKEL LEAD AND ZINC
      DEPOSITS IN ONTARIO/ ODM PRELIMINARY REPORT
      1952-4/ PG 8
PEARSON,W.N.  1979
      COPPER METALLOGENY NORTH SHORE REGION OF LAKE
      HURON/ GSC PAPER 78-1A/ PG 290/ *AC*


41-153

GLAGONA MINE
CU(3)

41/J/06  46 17 33   083 12 20   GLADSTONE TP/ LOT 1 CON 2
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (SHAFT/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009017)  NMI NUMBER (041/J/06/CU/018)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (PROSPECT)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QUARTZ-CARBONATE SULPHIDE VEIN CUTTING GABBRO)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PD)+/-SPECUL)
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SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (NIPPISING DIABASE)
ORE MNRLS (CHALCOPYRITE/PYRITE)
GANGUE (QUARTZ/CARBONATE)
ALTERATION (HEMATIZATION)
VEIN TYPE (SIMPLE VEIN(S)) STRIKE (080) DIP (90)
REL TO NIP DIABASE (CUTS DIABASE/GABBRO)
SOURCE (ODM GR 17/PG 52-53/WWP FIELD)
COMMENTS (WEST SECTION 250 FT LONG/EAST SECTION 400 FT LONG/
          MAX WIDTH 7 FT)

PRODUCTION   1917 TO 1917      26 TONNES ORE
   3.100% CU
   COMMENTS (CALCULATED GRADE)
   REFERENCE (NMI/ 1983 ODM GR 17/ PG 53)
PRODUCTION   1952 TO 1952      148 TONNES ORE
   1.020% CU
   COMMENTS (CALCULATED GRADE)
   REFERENCE (NMI/ 1963 ODM GR 17/ PG 53)

MAP(S) (GEOL 2012 ODM/GEOL 2419 OGS)

ROBERTSON,J A  1963
      GEOLOGY OF THE IRON BRIDGE AREA/ ODM GEOLOGICAL
      REPORT NO 17/ PG 53-55/ *AC*
SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 28-28/
      *CG*
----   1972
      / ODM RESIDENT GEOLOGIST FILES/ SSM-1880


41-116

GOULDING MINE
CU(3)

41/J/05  46 15 07   083 02 28   COBDEN TP/ LOT 10 CON 5
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (GSC MAP 1415A)
CANMINDEX NUMBER (008481)  NMI NUMBER (041/J/05/CU/026)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (PROSPECT)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ-SLPD VEINS CUT GOWGANDA QTZITE)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE)
GANGUE (QUARTZ)
VEIN TYPE (VEIN SETS/VEIN BRECCIAS)  STRIKE (305)  DIP (85)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM GR 20/PG 82-85)
COMMENTS (LIMITED PRODUCTION)

PRODUCTION   MAY/1982 TO JUN/1982      440 TONNES ORE
   1.400% CU
   REFERENCE (NMI)

MAP(S) (GEOL 1415A GSC/GEOL 2038 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 19/ *CG*
ROBERTSON,J A  1964
      GEOLOGY OF SCARPE MACKENZIE COBDEN AND STRIKER
      TOWNSHIPS/ ODM GEOL REPT 20/ PG 82-85/ *AC*
----
      / ODM RESIDENT GEOLOGIST FILES/ SSM-488


41-188

MILGATE   (ABBICAN)
CU(2)

41/J/05  46 28 50   083 09 08   NOUVEL TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C)  COMMENTS (GSC MAP 1415A)
CANMINDEX NUMBER (008487)  NMI NUMBER (041/J/05/CU/008)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (PROSPECT)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ-SLPD VEINS CUT HURONIAN SED ROCKS)

REMARKS (2 MAIN VEINS EXPOSED IN 3 SECTIONS-A & B & C
         ZONES/RESERVES FOR "A")

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE)
GANGUE (QUARTZ)
VEIN TYPE (UNCERTAIN OR OTHER)  STRIKE (090)
REL TO NIP DIABASE (CUTS SED ROCKS NEAR DIABASE/GABBRO INTRUSION)
SOURCE (ODM MRC 12/PG 97)
COMMENTS (3 ZONES/'A'1200FT LONG/'B'800FT LONG/'C'300FT
          LONG/'A'RESERVE BLOCK 800X10X38FT)

RESERVE:  1957      85,834 TONNES 1.080% CU
   COMMENTS (L-800FT/W-10FT/D-238FT/A ZONE)
   REFERENCE (NMI)

MAP(S) (GEOL 1415A GSC/GEOL P304 ODM)

THOMSON,J E  1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 71/ *CG*
SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 97/ *CG*
----
      / ODM RESIDENT GEOLOGIST FILES/ SSM-458/-459/-462/
      -819


41-323

NORTH MONTGOMERY   (DESTORADA/ IRON BRIDGE)
CU(2)

41/J/05  46 26 14   083 09 11   MONTGOMERY TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C)  COMMENTS (ADIT/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009001)  NMI NUMBER (041/J/05/CU/006)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ VEINS WITH SLPDS CUTTING GOWGANDA FM)

REMARKS (3 COMPONENT ZONES)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE/SPECULARITE)
GANGUE (QUARTZ/CARBONATE)
VEIN TYPE (VEIN SETS)  STRIKE (100)  DIP (90)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM MRC 12/PG 43-44/WWP FIELD)
COMMENTS (MAIN VEIN TRACED BY DRILLING FOR 2100 FT/AVG TRUE
          WIDTH 6-17 FT IN ORE BLOCKS)

RESERVE   1970      147,877 TONNES 1.730% CU
   COMMENTS (RECALCULATED RESERVES)
   REFERENCE (NMI/ 1971 NM MARCH 18/ PG 22)

MAP(S) (GEOL 1415A GSC/GEOL P303 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 43-44
ROBERTSON,J A  1963
      GEOLOGY OF THE IRON BRIDGE AREA/ ODM GEOL REPT 17/
      PG 17
----
      / ODM TORONTO ASSESSMENT WORK LIBRARY/ MONTGOMERY
      TP DRILL LOG REPORTS 1972 (DESTORADA MINES LTD)
      AND TECHNICAL FILES 63.2404 63.2709 & 63.2928
----   1973
      / ODM SOURCE MINERAL DEPOSIT RECORD 000784
FRAREY,M J  1977
      GEOLOGY OF THE HURONIAN BELT BETWEEN SAULT STE
      MARIE & BLIND RIVER/ GSC MEM 383/ PG 73


41-890

NORTH MONTGOMERY NO 1   (DESTORADA NO 1/ IRON BRIDGE)
CU(2)

41/J/05  46 26 14   083 09 11   MONTGOMERY TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ADIT/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009001)  NMI NUMBER (041/J/05/CU/006)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ VEINS WITH SLPDS CUTTING GOWGANDA FM)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE/SPECULARITE)
GANGUE (QUARTZ/CARBONATE)
VEIN TYPE (VEIN SETS)  STRIKE (100)  DIP (90)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM MRC 12/PG 43-44/WWP FIELD)

RESERVE:  1952      21,772 TONNES 1.580% CU
   COMMENTS (EAST ZONE/ DESTORADA NO.1)
   REFERENCE (NMI)
RESERVE:  1963      40,900 TONNES 1.950% CU
   COMMENTS (EAST ZONE/ DESTORADA NO.1)
   REFERENCE (NMI)
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MAP(S) (GEOL 1415A GSC/GEOL P303 ODM)

SHKLANKA,R  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 43-44
ROBERTSON,J A  1963
     GEOLOGY OF THE IRON BRIDGE AREA/ ODM GEOL REPT 17/
      PG 17
----
     / ODM TORONTO ASSESSMENT WORK LIBRARY/ MONTGOMERY
     TP DRILL LOG REPORTS 1972 (DESTORADA MINES LTD)
     AND TECHNICAL FILES 63 2404 63 2709 & 63 2928
----  1973
     / ODM SOURCE MINERAL DEPOSIT RECORD 000784


41-880

NORTH MONTGOMERY NO 2   (DESTORADA NO 2/ IRON BRIDGE)
CU(2)

41/J/06  46 26 15   083 09 20   MONTGOMERY TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (TRENCH/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009001)  NMI NUMBER (041/J/06/CU/008)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ VEINS WITH SLFDS CUTTING GOWGANDA FM)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE/SPECULARITE)
GANGUE (QUARTZ/CARBONATE)
VEIN TYPE (VEIN SWARM(S))  STRIKE (105)  DIP (75)
REL TO NIP DIABASE (UNCERTAIN OR OTHER)
SOURCE (ODM MRC 12/PG 43-44)

RESERVE   1963      77,083 TONNES 3 230% CU
   COMMENTS (CENTRAL ZONE/ DESTORADA NO 2)
   REFERENCE (NMI)
RESERVE   1952      72,574 TONNES 3 540% CU
   COMMENTS (CENTRE ZONE/ DESTORADA NO 2)
   REFERENCE (NMI)

MAP(S) (GEOL 1415A GSC/GEOL P303 ODM)

SHKLANKA,R  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 43-44
ROBERTSON,J A  1963
     GEOLOGY OF THE IRON BRIDGE AREA/ ODM GEOL REPT 17/
      PG 17
----
     / ODM TORONTO ASSESSMENT WORK LIBRARY/ MONTGOMERY
     TP DRILL LOG REPORTS 1972 (DESTORADA MINES LTD)
     AND TECHNICAL FILES 63 2404 63 2709 & 63 2928
----
     / ODM SOURCE MINERAL DEPOSIT RECORD 000784


41-881

NORTH MONTGOMERY NO 3   (DESTORADA NO 3/ IRON BRIDGE)
CU(2)

41/J/06  46 26 18   083 09 45   MONTGOMERY TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (PIT/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009001)  NMI NUMBER (041/J/06/CU/006)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ VEINS WITH SLFDS CUTTING GOWGANDA FM)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE/SPECULARITE)
GANGUE (QUARTZ/CARBONATE)
VEIN TYPE (VEIN SETS)  STRIKE (100)  DIP (90)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM MRC 12/PG 43-44/WMP FIELD)

RESERVE   1952      81,688 TONNES 1 000% CU
   COMMENTS (WEST ZONE/ DESTORADA NO 3)
   REFERENCE (NMI)

MAP(S) (GEOL 1415A GSC/GEOL P303 ODM)

SHKLANKA,R  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 43-44
ROBERTSON,J A  1963
     GEOLOGY OF THE IRON BRIDGE AREA/ ODM GEOL REPT 17/
      PG 17
----
     / ODM TORONTO ASSESSMENT WORK LIBRARY/ MONTGOMERY
     TP DRILL LOG REPORTS 1972 (DESTORADA MINES LTD)
     AND TECHNICAL FILES 63 2402 63 2709 & 63 2928
----  1973
     / ODM SOURCE MINERAL DEPOSIT RECORD 000784


41-163

PRINCIPLE STRATEGIC MINERALS
CU(2)

41/J/06  46 17 40   083 12 46   GLADSTONE TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (PIT/ ODM MAP 2012)
CANMINDEX NUMBER (008490)  NMI NUMBER (041/J/06/CU/048)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ-CARBONATE-SLFD VEINS CUT GABBRO)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (NIPPISING DIABASE)
ORE MNRLS (CHALCOPYRITE)
GANGUE (QUARTZ/CARBONATE)
VEIN TYPE (UNCERTAIN OR OTHER)  STRIKE (090)  DIP (80)
REL TO NIP DIABASE (CUTS DIABASE/GABBRO)
SOURCE (ODM MRC 12/PG 28)
COMMENTS (MAIN VEIN 940FT LONG/DDH CORE/O 02 TO 4 76% CU/
          WIDTHS RANGE FROM 1 0-7 9FT)

RESERVE   1957      78,368 TONNES 2 260% CU
   COMMENTS (INDICATED BY DRILLING)
   REFERENCE (NMI)

MAP(S) (GEOL 2012 ODM/GEOL 2419 OGS)

ROBERTSON,J A  1963
     GEOLOGY OF THE IRON BRIDGE AREA/ ODM GEOL REPT 17/
      PG 50-51/ *AC*
SHKLANKA,R  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 28/ *CC*
----  1966
     / NORTHERN MINER/ OCT 13 1966
----
     / ODM RESIDENT GEOLOGIST FILES/ SSM-60


41-202

SHEBA
CU(2)

41/J/06  46 29 07   083 08 27   NOUVEL TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (NMI)
CANMINDEX NUMBER (008496)  NMI NUMBER (041/J/06/CU/017)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ-SLFD VEIN CUTS GOWGANDA FM)

REMARKS (VEIN TRACED 1000 FT)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE)
GANGUE (QUARTZ)
VEIN TYPE (UNCERTAIN OR OTHER)  STRIKE (110)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM MRC 12/PG 98)
COMMENTS (ZONE TRACED FOR 100 FT/WEIGHTED AVG DDH/O 69% CU/
          3 FT WIDTH)

MAP(S) (GEOL 2419 OGS/GEOL 1415A GSC)

SHKLANKA,R  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 98
----
     / ODM RESIDENT GEOLOGISTS FILES/ SSM-480/-484


41-189

TWIN LAKES
CU(2)

41/J/07  46 17 49   082 37 18   ESTEN TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM MAP P304)
CANMINDEX NUMBER (008515)  NMI NUMBER (041/J/07/CU/007)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
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Appendix 1 (cont.)

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GEOLOGY (FAULT ZONES CUT GRANITIC ROCKS W MAFIC INCLUSIONS)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (ARCHEAN GRANITES/MAFIC INTRUSIONS -
      UNDIFFERENTIATED)
ORE MNRLS (CHALCOPYRITE/PYRITE)
GANGUE (QUARTZ)
VEIN TYPE (VEIN SWARM(S))  STRIKE (105)
REL TO NIP.DIABASE (UNCERTAIN OR OTHER)
SOURCE (ODM MRC 12/PG 23)
COMMENTS (ODM VALUES RANGED FROM 1 78% CU/18 9FT TO 0 84%
          CU/50FT)

RESERVE:  1966      69,752 TONNES 1 730% CU
   COMMENTS (WIDTH/ 8 04 FT)
   REFERENCE (NMI)

MAP(S) (GEOL P304 ODM/GEOL 2185 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 23/ *CG*
----
      / ODM RESIDENT GEOLOGISTS FILES/ SSM-1292/-1288
ROBERTSON,J A  1970
      GEOLOGY OF THE SPRAGGE AREA/ ODM GEOL REPT 76/ PG
      87



41-178

81-ORE MINE   (COBRE LAKE)
CU(3)

41/J/10  46 37 52   082 46 00   SAGARD TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C)  COMMENTS (ADIT/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009021)  NMI NUMBER (041/J/10/CU/008)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ-CARBONATE VEINS IN FISSURE CUTTING SED ROCKS)

REMARKS (2 MAIN VEINS-EAST & WEST)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (GORDON LAKE FORMATION)
ORE MNRLS (CHALCOPYRITE/PYRITE/BORNITE/CHALCOCITE/
           SPECULARITE)
GANGUE (QUARTZ/CALCITE)
ALTERATION (SUPERGENE COPPER ENRICHMENT/SILICIFICATION/
            HEMATIZATION)
VEIN TYPE (VEIN SWARM(S)/VEIN BRECCIAS)  STRIKE (090)  DIP (80)
REL TO NIP DIABASE (CUTS SED.ROCKS NEAR DIABASE/GABBRO INTRUSION)
SOURCE (ODM VOL 38/PT 7/PG 18-21)
COMMENTS (EAST VEIN 850FT LONG/2 5-5FT WIDE/WEST  VEIN)

PRODUCTION:  1947 TO 1948      2,472 TONNES CONCENTRATE
   30 200% CU
   REFERENCE (NMI/ 1957 ODM MRC 3/ PG 74)

RESERVE:  1973      13,607 TONNES 8 000% CU
   COMMENTS (KNOWN ORE/ AVERAGE GRADE)
   REFERENCE (1973 GLOBE & MAIL/JULY 25/P 38)

MAP(S) (GEOL 2418 OGS/GEOL P304 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 70/ *I*
THOMSON,J E  1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 74/ *EI*
----
      / ODM RESIDENT GEOLOGIST FILES/ SSM-204



41-181

CHENEY MINE
CU(3) BA(7)

41/J/11  46 30 14   083 33 58   GOULD TP/ LOT 7 CON 5
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (SHAFT/W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (009031)  NMI NUMBER (041/J/11/CU/014)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ VEINS WITH SLPD CUT SED ROCKS AND DIABASE)

REMARKS (MAP REF 2 IS AN UNNUMBERED MAP INSERT OPPOSITE
         PAGE 14)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION/NIPPISING DIABASE)
ORE MNRLS (CHALCOPYRITE/PYRITE/SPECULARITE)
GANGUE (CALCITE/SIDERITE/ANKERITE/BARITE)
VEIN TYPE (VEIN SWARM(S))  STRIKE (090)  DIP (50)
REL TO NIP DIABASE (CUTS SED ROCKS NEAR DIABASE/GABBRO INTRUSION/
                    -CUTS DIABASE/GABBRO)
SOURCE (ODM MRC 12/PG 26-27)
COMMENTS (ZONE 4000FT LONG/DRILLED TO DEPTH OF 450FT/AVG
          WIDTH 5FT)

PRODUCTION:  1916 TO 1916      15 TONNES REFINED METAL
   99 000% CU
   COMMENTS (3500 TONS ALSO MINED 1966-67)
   REFERENCE (NMI)

RESERVE:  1980      27,732 TONNES 3 900% CU
   COMMENTS (MAIN SHOOT)
   REFERENCE (NMI)
RESERVE:  1980      3,479 TONNES 4 200% CU
   COMMENTS (LENS WEST OF MAIN SHOOT)
   REFERENCE (NMI)
RESERVE:  1980      8,014 TONNES 4 200% CU
   COMMENTS (LENS WEST OF MAIN SHOOT)
   REFERENCE (1969 ODM MRC 12/ PG 26-27)

MAP(S) (GEOL P737 ODM/GEOL PG 14 BIBL2)

SUTHERLAND,T F  1929
      MINES OF ONTARIO IN 1927/ ODM ANNUAL REPORT VOL
      37 PART 1 1928/ PG 157-158/ *I*
MOORE,E S  1930
      ORE DEPOSITS NEAR THE NORTH SHORE OF LAKE HURON/
      ODM ANNUAL REPORT/ VOL 38 PART 7 1929/ PG 10-15
SINCLAIR,D G  1931
      MINES OF ONTARIO IN 1929/ ODM ANNUAL REPORT/ VOL
      39 PART 1 1930/ PG 79
CHANDLER,F W  1976
      GEOLOGY OF THE SAUNDERS LAKE AREA/ ODM GEOSCIENCE
      REPT 155/ PG 36-37
SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 26-27
----
      / CANADIAN MINES HANDBOOK/ 1943(PG 252)/1960(PG
      258)/1967-68(PG 291)/1968-69(PG 289 & 298)/
      1970-71(PG 305)
----
      / ODM RESIDENT GEOLOGIST FILES/ SSM-62/-804



41-182

COPPER PRINCE MINE
CU(3) AU(6)

41/J/11  46 30 38   083 02 17   KAMICHISITIT TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C)  COMMENTS (ADIT/ OGS MAP 2399)
CANMINDEX NUMBER (008541)  NMI NUMBER (041/J/11/CU/011)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ-SLPD VEINS CUT GOWGANDA ARKOSE)

REMARKS (FOUR ORE SHOOTS ON SURFACE)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (GOWGANDA FORMATION)
ORE MNRLS (CHALCOPYRITE/PYRITE/CHALCOCITE/SPECULARITE)
GANGUE (QUARTZ)
VEIN TYPE (VEIN SWARM(S)/VEIN BRECCIAS)  STRIKE (075)
REL TO NIP.DIABASE (UNCERTAIN OR OTHER)
SOURCE (OGS GR 176/ PG 65-67)
COMMENTS (MAIN VEIN 1000FT LONG/8-20FT WIDE/FOUR MAJOR
          SHOOTS ON SURFACE)

PRODUCTION:  1972 TO DEC/1972      987 TONNES
   2 07% CU
   COMMENTS (80 TONS CONC/23 85% CU)
   REFERENCE (NMI)

RESERVE:  1972      45,359 TONNES 3 000% CU
   COMMENTS (NEAR SURFACE)
   REFERENCE (NMI)

MAP(S) (GEOL 2418 OGS/GEOL 2399 OGS)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 83/ *CG*
THOMSON,J E  1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 75/ *CG*
SIEMIATKOWSKA,K M  1976
      GEOLOGY OF THE ENDIKAI LAKE AREA/ OGS REPT 176/
      PG 65-67
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41-222

JARDUN MINE    (VICTORIA/ CASCADE)
PB(3) ZN(3) AG(3) CU(3) AU(3) BA(8) FL(8)

41/K/09  48 38 09    084 08 09    DUNCAN & JARVIS TPS
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C)  COMMENTS (NO 1 ZONE/ GSC MAP 1412A)
CANMINDEX NUMBER (008655)  NMI NUMBER (041/K/09/PB/001)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (DISS & VEINS IN GRANITE & DIABASE)

REMARKS (FOUR MAJOR ORE ZONES)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (ZN-PB-AG-CU)
SIZE (0 - 1,000 TONNES CONTAINED CU)
HOST (ARCHEAN GRANITES/MAFIC INTRUSIONS
      UNDIFFERENTIATED)
ORE MNRLS (GALENA/SPHALERITE/CHALCOPYRITE/PYRITE/MAGNETITE/
           ARSENOPYRITE/SPECULARITE/N.SILVER/ARGENTITE)
GANGUE (QUARTZ/CARBONATE/BARITE/OTHER)
VEIN TYPE (VEIN SWARM(S))  STRIKE (165)
REL.TO NIP DIABASE (UNCERTAIN OR OTHER)
SOURCE (ODM MRC 12/PG 32-33)
COMMENTS (4 MAJOR ORE ZONES)

PRODUCTION:  1954 TO 1957     31 TONNES REFINED METAL
   99.999% CU
   REFERENCE (ODM MRC 12/ PG 33)

MAP(S) (GEOL 1412A GSC/GEOL P303 ODM)

THOMSON,J.E  1957
     COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
     ODM METAL RESOURCES CIRCULAR NO 2/ PG 8
SHKLANKA,R  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 32-33/
     *CG*
FIELD,D.J  1959
     MINING OPERATIONS IN 1957/ ODM ANN REPT 1958 PT 2/
     VOL 67/ PG 108/ *I*
----
     / ODM RESIDENT GEOLOGISTS FILES/ SSM-10/ -810
MAY,R.E  1963
     THE GEOLOGY OF THE SAULT STE MARIE MAP AREA/
     UNPUBLISHED PHD THESIS/ MCGILL 1963/ PG 281-295
ALCOCK,F.J  1930
     ZINC AND LEAD DEPOSITS OF CANADA/ GSC ECON GEOL
     SERIES NO 6/ PG 183-185/ *C*
HURST,M.E  1929
     CERTAIN LEAD-ZINC DEPOSITS IN THE DISTRICT OF
     ALGOMA/ ODM ANN REPT 1928 PT 3/ VOL 37/ PG 77/ *C*



41-320

EOULAIS RIVER    (DOUGHTY)
CU(2) AG(2) PB(?)

41/K/10  48 45 44    084 15 45    VANKOUGHNET TP/ SEC 14
GEOLOGICAL PROVINCE (SUPERIOR PROVINCE)
ENTITY CODED (C)  COMMENTS (ODM MAP P302)
CANMINDEX NUMBER (008584)  NMI NUMBER (041/K/10/CU/006)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (DISS & VEINS IN ALTERED MAFIC METAVOLC ROCKS)

REMARKS (32 ZONES/ SOME QTZ-CRBN-SLFD VEINS)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (ARCHEAN METAVOLCANIC ROCKS)
ORE MNRLS (CHALCOPYRITE/PYRITE)
GANGUE (QUARTZ/CARBONATE)
VEIN TYPE (SIMPLE VEIN(S))  STRIKE (090)  DIP (90)
REL.TO NIP.DIABASE (UNCERTAIN OR OTHER)
SOURCE (NMI/WNP FIELD DATA)
COMMENTS (DRILLING/ZONE 2800FT LONG WITH 3 MINERALIZED
          ZONES/WIDTH 5-15FT)

RESERVE:  1972     226,788 TONNES 2.350% CU
   0.28G/T AG
   COMMENTS (THREE ZONES)
   REFERENCE (NMI)

MAP(S) (GEOL P302 ODM/GEOL 35A ODM)

GUILLET,G.R.  1971
     ANNUAL REPORT OF RESIDENT GEOLOGISTS SECTION
     GEOLOGICAL BRANCH 1970/ ODM MISCELLANEOUS PAPER
     46/ PG 92-93
----  1973
     / THE NORTHERN MINER/ JAN 11 & 18 1973/ JUNE 14
     1973

41-234

KRISTINA MINE    (SUPERCREST/ SUPERIOR COPPER)
CU(3) PB(?)

41/K/15  48 53 07    084 05 25    LAVERENDRYE TP
GEOLOGICAL PROVINCE (SUPERIOR PROVINCE)
ENTITY CODED (S)  COMMENTS (NO 6 SHAFT/ PEARSON VERIF 1977)
CANMINDEX NUMBER (008736)  NMI NUMBER (041/K/15/CU/011)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ-SLFD VEINS IN GRANITIC ROCKS)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (ARCHEAN GRANITES/MAFIC INTRUSIONS -
      UNDIFFERENTIATED)
ORE MNRLS (CHALCOPYRITE/PYRITE/GALENA)
GANGUE (QUARTZ)
VEIN TYPE (UNCERTAIN OR OTHER)  STRIKE (110)  DIP (65)
REL TO NIP DIABASE (UNCERTAIN OR OTHER)
SOURCE (ODM MRC 12/PG 75)

PRODUCTION    1903 TO 1907     295 TONNES REFINED METAL
   99.999% CU
   COMMENTS (PROD 1903/ 1905-1907)
   REFERENCE (ODM MRC 12/ PG 75)

RESERVE    1969     335,104 TONNES 1.950% CU
   COMMENTS (PROBABLE AND POSSIBLE ORE)
   REFERENCE (ODM MRC 12/ PG 75)

MAP(S) (GEOL P302 ODM/GEOL 2419 DGS)

SHKLANKA,R.  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 75/ *CG*
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     /ODM RESIDENT GEOLOGISTS FILES/ SSM-38/ -38/ -40/
     -872
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     /ODM ANN REPORTS/ VOL 11 1902/ PG 274-275/ VOL 12
     1903/ PG 100/ VOL 13 PT 1 1904/ PG 82/ VOL 14 PT
     1 1905/ PG 41 & 81/ VOL 15 PT 1 1906/ PG 68-69/
     VOL 16 PT 1 1907/ PG 72/ VOL 17 1908/ PG 78-80



41-240

COPPERCORP MINE
CU(3) AG(3) AU(3)

41/N/02  47 01 28    084 45 15    RYAN TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C)  COMMENTS (C ZONE/ ODM MAP 2251)
CANMINDEX NUMBER (008607)  NMI NUMBER (041/N/02/CU/006)

CU DEPOSIT TYPE (CU SULPH-NATIVE CU IN VOLC)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (FAULT ZONE VEINS IN BASALTS & CONGLOMERATES)

REMARKS (5 MAJOR ZONES)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CC-BN-NATIVE CU)
SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (KEWEENAWAN VOLCANICS/KEWEENAWAN SEDIMENTS)
ORE MNRLS (CHALCOCITE/PYRITE/BORNITE/N. COPPER/SPECULARITE)
GANGUE (CALCITE/QUARTZ)
VEIN TYPE (VEIN BRECCIAS)  STRIKE (345)  DIP (80)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (HESLOP MSC THESIS 1970)

PRODUCTION:  NOV/1965 TO NOV/1967     348,802 TONNES ORE
   1.370% CU
   COMMENTS (CALCULATED GRADE)
   REFERENCE (NMI)
PRODUCTION:  1965 TO DEC/1972     849,547 TONNES ORE
   1.154% CU  0.06EG/T AU  8.33G/T AG
   COMMENTS (PROD 1965-71/ CALC GRADE)
   REFERENCE (ODM SMDR 000862)

RESERVE:  1957     1,380,777 TONNES 1.700% CU
   COMMENTS (DEPTH TO 550 FT)
   REFERENCE (NMI)

MAP(S) (GEOL 2251 ODM/GEOL 1953-1 ODM)

HESLOP,J.B.  1970
     GEOLOGY MINERALOGY AND TEXTURAL RELATIONSHIPS OF
     THE COPPERCORP DEPOSIT MAMAINSE POINT AREA
     ONTARIO/ UNPUBLISHED MSC THESIS/ CARLETON
     UNIVERSITY 1970/ 103 PAGES
SHKLANKA,R.  1969
     COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
     ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 45-48/
     *CG*
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     / NORTHERN MINER/ NOV 18 1965/ JAN 25 AND JULY 18
     1968
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      / ODM RESIDENT GEOLOGISTS FILES/ SSM-159
THOMSON,J.E. 1954
      GEOLOGY OF THE MAMAINSE POINT COPPER AREA/ ODM
      ANNUAL REPORT/ VOL 62 PT 4 1953/ *A*
MOORE,E.S. 1927
      BATCHAWANA AREA DISTRICT OF ALGOMA/ ODM ANNUAL
      REPORT/ VOL 35 PT 2 1926/ PG 82-83
GIBLIN,P.E. 1966
      RECENT EXPLORATION AND MINING DEVELOPMENTS IN THE
      BATCHAWANA AREA OF ONTARIO/ CANADIAN MINING
      JOURNAL/ VOL 87/ NO 4/ PG 77-79/ *AC*


41-887

COPPERCORP-SILVER CK SOUTH   (SILVER CREEK SOUTH ZONE)
CU(3) AG(3) AU(3)

41/N/02  47 01 32   084 45 31   RYAN TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (SHAFT/ ODM MAP 2251)
CANMINDEX NUMBER (008807)  NMI NUMBER (041/N/02/CU/008)

CU DEPOSIT TYPE (CU SULPH-NATIVE CU IN VOLC)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (FAULT ZONE VEINS IN BASALTS & CONGLOMERATES)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CC-BN-NATIVE CU)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (KEWEENAWAN VOLCANICS/KEWEENAWAN SEDIMENTS)
ORE MNRLS (CHALCOCITE/PYRITE/BORNITE/N  COPPER/SPECULARITE)
GANGUE (CALCITE/QUARTZ)
VEIN TYPE (VEIN BRECCIAS)  STRIKE (010)  DIP (85)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (HESLOP MSC THESIS)

RESERVE   1985      444,520 TONNES 2 300% CU
   COMMENTS (SILVER CREEK SOUTH)
   REFERENCE (NMI)

MAP(S) (GEOL 2251 ODM/GEOL 1953-1 ODM)

THOMSON,J.E. 1954
      GEOLOGY OF THE MAMAINSE POINT COPPER AREA/ ODM
      ANNUAL REPORT/ VOL 62 PT 4 1953/ *A*
GIBLIN,P.E. 1966
      RECENT EXPLORATION AND MINING DEVELOPMENTS IN THE
      BATCHAWANA AREA OF ONTARIO/ CANADIAN MINING
      JOURNAL/ VOL 87/ NO 4/ PG 77-79/ *CG*
HESLOP,J.B. 1970
      GEOLOGY MINERALOGY AND TEXTURAL RELATIONSHIPS OF
      THE COPPERCORP DEPOSIT MAMAINSE POINT AREA
      ONTARIO/ UNPUBLISHED MSC THESIS/ CARLETON
      UNIVERSITY 1970/ 103 PAGES


41-889

COPPERCORP MINE-C ZONE
CU(3) AG(3) AU(3)

41/N/02  47 01 28   084 45 15   RYAN TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM/ ODM MAP 2251)
CANMINDEX NUMBER (008807)  NMI NUMBER (041/N/02/CU/008)

CU DEPOSIT TYPE (CU SULPH-NATIVE CU IN VOLC)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (FAULT ZONE VEINS IN BASALTS & CONGLOMERATES)

REMARKS (RESERVES COMBINED WITH C2 ZONE)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CC-BN-NATIVE CU)
SIZE (1,000 - 10,000   TONNES CONTAINED CU)
HOST (KEWEENAWAN VOLCANICS/KEWEENAWAN SEDIMENTS)
ORE MNRLS (CHALCOCITE/PYRITE/BORNITE/N  COPPER/SPECULARITE)
GANGUE (CALCITE/QUARTZ)
VEIN TYPE (VEIN BRECCIAS)  STRIKE (345)  DIP (80)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (HESLOP MSC THESIS 1970)
COMMENTS (ZONE 5400FT LONG/AVG WIDTH 8FT)

RESERVE:  1985      382,873 TONNES 2 300% CU
   COMMENTS (C AND C-2 ZONES COMBINED)
   REFERENCE (NMI)

MAP(S) (GEOL 2251 ODM/GEOL 1953-1 ODM)

THOMSON,J.E. 1954
      GEOLOGY OF THE MAMAINSE POINT COPPER AREA/ ODM
      ANNUAL REPORT/ VOL 62 PT 4 1953/ *A*
GIBLIN,P.E. 1966
      RECENT EXPLORATION AND MINING DEVELOPMENTS IN THE
      BATCHAWANA AREA OF ONTARIO/ CANADIAN MINING
      JOURNAL/ VOL 87 NO 4/ PG 77-79/ *CG*
HESLOP,J.B. 1970
      GEOLOGY MINERALOGY AND TEXTURAL RELATIONSHIPS OF
      THE COPPERCORP DEPOSIT MAMAINSE POINT AREA
      ONTARIO/ UNPUBLISHED MSC THESIS/ CARLETON
      UNIVERSITY 1970/ 103 PAGES


41-885

COPPERCORP MINE-SB ZONE
CU(3) AG(3) AU(3)

41/N/02  47 01 18   084 45 05   RYAN TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM/ ODM MAP 2251)
CANMINDEX NUMBER (008807)  NMI NUMBER (041/N/02/CU/008)

CU DEPOSIT TYPE (CU SULPH-NATIVE CU IN VOLC)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (FAULT ZONE VEINS IN BASALTS & CONGLOMERATES)

REMARKS (RESERVES COMBINED WITH SILVER CK NORTH ZONE)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CC-BN-NATIVE CU)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (KEWEENAWAN VOLCANICS/KEWEENAWAN SEDIMENTS)
ORE MNRLS (CHALCOCITE/PYRITE/BORNITE/N  COPPER/SPECULARITE)
GANGUE (CALCITE/QUARTZ)
VEIN TYPE (VEIN BRECCIAS)  STRIKE (021)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (HESLOP MSC THESIS 1970)
COMMENTS (ZONE 3600FT LONG/SUBPARALLEL TO C ZONE)

RESERVE:  1985      589,670 TONNES 2 100% CU
   COMMENTS (SILVER CREEK NORTH & SB ZONES)
   REFERENCE (NMI)

MAP(S) (GEOL 2251 ODM/GEOL 1953-1 ODM)

THOMSON,J.E. 1954
      GEOLOGY OF THE MAMAINSE POINT COPPER AREA/ ODM
      ANNUAL REPORT/ VOL 62 PT 4 1953/ *A*
GIBLIN,P.E. 1966
      RECENT EXPLORATION AND MINING DEVELOPMENTS IN THE
      BATCHAWANA AREA OF ONTARIO/ CANADIAN MINING
      JOURNAL/ VOL 87 NO 4/ PG 77-79/ *CG*
HESLOP,J.B. 1970
      GEOLOGY MINERALOGY AND TEXTURAL RELATIONSHIPS OF
      THE COPPERCORP DEPOSIT MAMAINSE POINT AREA
      ONTARIO/ UNPUBLISHED MSC THESIS/ CARLETON
      UNIVERSITY 1970/ 103 PAGES


41-245

JOGRAN   (BJORNAS-DALE)
CU(2) MO(2) AG(6)

41/N/02  47 02 35   084 36 55   RYAN TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (S)  COMMENTS (NMI)
CANMINDEX NUMBER (008613)  NMI NUMBER (041/N/02/CU/004)

CU DEPOSIT TYPE (PORPHYRY)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (STOCKWORK/BRECCIA PIPE)
GEOLOGY (DISSEM & FRACTURE SFLDS IN QTZ-FELDSPAR PORPHYRY)

REMARKS (KEWEENAWAN AGE PORPHYRY COPPER DEPOSIT)

TYPE (PORPHYRY)

SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (KEWEENAWAN FELSIC INTRUSIONS)
ORE MNRLS (CHALCOPYRITE/MOLYBDENITE/PYRITE)
ALTERATION (SERICITIC/CHLORITIC/CARBONATIZATION/POTASH
            FELDSPAR)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ODM MRC 12/PG 60-61)
COMMENTS (OPP PLUG 600FT IN DIAMETER/MIN DEPTH 650FT/AVG
          GRADE 0 19% CU & 0 063% MOS2)

MAP(S) (GEOL P585 ODM/GEOL 2251 ODM)

JOHNSTON,F.J. 1968
      MOLYBDENUM DEPOSITS IN ONTARIO/ ODM MINERAL
      RESOURCES CIRCULAR NO 7/ PG 11
BLECHA,M. 1974
      BATCHAWANA AREA-A POSSIBLE PRECAMBRIAN PORPHYRY
      COPPER DISTRICT/ CIM BULL VOL 68/ NO 748/ PG 71-76
SHKLANKA,R. 1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 60-61/
      *CG*
GIBLIN,P.E. 1966
      RECENT EXPLORATION AND MINING DEVELOPMENTS IN THE
      BATCHAWANA AREA OF ONTARIO/ CAN MINING JOUR VOL
      87/ NO 4/ PG 77-80/ *AC*
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      / ODM RESIDENT GEOLOGISTS FILES/ SSM-595/ -638/
      -844/ -1073/ -1187
PEARSON,W.N. 1978
      COPPER METALLOGENY NORTH SHORE REGION OF LAKE
      HURON/ GSC PAPER 78-1A/ PG 303/ *I*
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Appendix 1 (cont.)

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ARMBRUST,G A  1979
      GEOLOGY OF THE JOGRAN DISSEMINATED CU-MO DEPOSIT/
      OGS GEOSCIENCE RESEARCH SEMINAR/ DEC 5-6 1979/ PG
      1-2


41-248

MARICONA
CU(2)

41/N/02  47 08 31   084 43 35   SLATER TP
GEOLOGICAL PROVINCE (SOUTHERN PROVINCE)
ENTITY CODED (C)  COMMENTS (DUMP/ W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (008616)  NMI NUMBER (041/N/02/CU/027)

CU DEPOSIT TYPE (CU SULPH-NATIVE CU IN VOLC)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (SLPDS IN VEIN BRECCIAS CUTTING KEWEENAWAN BASALTS)

REMARKS (3 ZONES)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CC-BN-NATIVE CU)
SIZE (1,000 - 10,000 TONNES CONTAINED CU)
HOST (KEWEENAWAN VOLCANICS)
ORE MNRLS (CHALCOCITE/CHALCOPYRITE/BORNITE/N  COPPER/
          SPECULARITE)
GANGUE (CALCITE)
VEIN TYPE (VEIN BRECCIAS)  STRIKE (310)  DIP (45)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (NMI/ODM MRC 12/PG 58)
COMMENTS (3 ZONES 240/250/400FT LONG/AVG TRUE WIDTH 8 4/8/
          8FT/GRADES 1 38/1 09/1 16% CU)

RESERVE   1956      287,888 TONNES 1 170% CU
   COMMENTS (RESERVES IN 3 SECTIONS)
   REFERENCE (NMI)

MAP(S) (GEOL 1951-B ODM/GEOL 1955-1 ODM)

THOMSON,J E  1957
      COPPER NICKEL LEAD AND ZINC DEPOSITS IN ONTARIO/
      ODM METAL RESOURCES CIRCULAR NO 2/ PG 79/ *CG*
SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 58/ *CG*
NUFFIELD,E W  1956
      GEOLOGY OF THE MONTREAL RIVER AREA/ ODM ANNUAL
      REPORT/ VOL 64 PT 3 1955/ PG 11/ *A*
ANNELLS,R N  1972
      PROTEROZOIC FLOOD BASALTS OF EASTERN LAKE
      SUPERIOR/ THE KEWEENAWAN VOLCANIC ROCKS OF THE
      MAMAINSE POINT AREA ONTARIO/ GSC PAPER 72-10
PYE,E.G  1975
      ANNUAL REPORT OF THE REGIONAL AND RESIDENT
      GEOLOGISTS/ ODM MISC PAPER 80/ PG 161
MOORE,E.S  1927
      BATCHAWANA AREA DISTRICT OF ALGOMA/ ODM ANNUAL
      REPORT/ VOL 36 PT 2 1926/ PG 81
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      / ODM RESIDENT GEOLOGISTS FILES/ SSM-292/ -294


41-254

PANCAKE LAKE   (RICHARDS)
CU(2)

41/N/02  47 03 40   084 37 50   KINCAID & RYAN TPS
GEOLOGICAL PROVINCE (SUPERIOR PROVINCE)
ENTITY CODED (S)  COMMENTS (ODM/ ODM MAP 2251)
CANMINDEX NUMBER (QO8825)  NMI NUMBER (041/N/02/CU/003)

CU DEPOSIT TYPE (VEIN/REPLACEMENT)
CU DEPOSIT STATUS (DEPOSIT WITH RESERVES)
CANMINDEX DEPOSIT TYPE (VEIN/REPLACEMENT)
GEOLOGY (QTZ-SLPD VEINS IN FAULT ZONE CUTTING METAVOLCANICS)

REMARKS (DRILLING OVER 300 FT LENGTH/ WIDTH 31 5 FT/ DEPTH
          200 FT/ 0 76% CU)

TYPE (VEIN/REPLACEMENT)
SUBTYPE (QUARTZ-CARB-CCP-PY (PO)+/-SPECUL)
SIZE (    0 - 1,000 TONNES CONTAINED CU)
HOST (ARCHEAN METAVOLCANIC ROCKS)
ORE MNRLS (CHALCOPYRITE/PYRITE/BORNITE)
GANGUE (QUARTZ)
VEIN TYPE (VEIN SWARM(S))  STRIKE (140)  DIP (90)
REL TO NIP DIABASE (UNCERTAIN OR OTHER)
SOURCE (ODM MRC 12/PG 38-39)
COMMENTS (ZONE 310FT LONG/TRUE WIDTH 21 5FT/GRADES 0 76% CU
          TO DEPTH OF 200FT)

MAP(S) (GEOL P553 ODM/GEOL 2251 ODM)

SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 38-39/
      *CG*
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      / ODM RESIDENT GEOLOGISTS FILES/ SSM-522/ -855


41-420

TRIBAG
W(2) CU(3) AG(3) AU(3) MO(8) ZN(8) PB(8)

41/N/02  47 05 09   084 30 30   NICOLET TP
GEOLOGICAL PROVINCE (SUPERIOR PROVINCE)
ENTITY CODED (C)  COMMENTS (BRETON ZONE/ PEARSON VERIF 77)
CANMINDEX NUMBER (008624)  NMI NUMBER (041/N/02/CU/005)

CU DEPOSIT TYPE (PORPHYRY)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (STOCKWORK/BRECCIA PIPE)
GEOLOGY (BRECCIA PIPES WITH QTZ-CARBONATE-SLPD MATRICES)

REMARKS (4 ZONES/ PRODUCTION 1967-1973 FROM BRETON & WEST
          BRECCIAS)

TYPE (PORPHYRY)

SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (ARCHEAN METAVOLCANIC ROCKS/ARCHEAN GRANITES)
ORE MNRLS (CHALCOPYRITE/PYRITE/SPHALERITE/GALENA/PYRRHOTITE/
          MARCASITE/MOLYBDENITE/SCHEELITE)
GANGUE (QUARTZ/CALCITE/BARITE/OTHER)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ECON GEOL VOL 64/PG 551-583)
COMMENTS (BRETON/WEST/EAST AND SOUTH BRECCIAS)

PRODUCTION:  1967 TO 1972      900,389 TONNES ORE
   1 710% CU
   COMMENTS (AG INCOMPLETE FIGURES)
   REFERENCE (NMI)
PRODUCTION:  1967 TO 1971      726,332 TONNES ORE
   1 736% CU  0 016/T AU  10 526/T AG
   COMMENTS (CALC GRADE)
   REFERENCE (ODM SMDR 000849)
PRODUCTION   1967 TO 1974      1,104,681 TONNES ORE
   1 530% CU
   COMMENTS (CALC GRADE)
   REFERENCE (ODM SMDR 000849)

RESERVE:  1968      929,884 TONNES 2 310% CU
   COMMENTS (M ZONE)
   REFERENCE (NMI)
RESERVE   1968      844,310 TONNES 2 200% CU
   COMMENTS (POSITIVE RESERVES)
   REFERENCE (NMI)
RESERVE   1982      907,184 TONNES
   COMMENTS (0 18% W IN TAILINGS PILE)
   REFERENCE (N  MINER NOV 25 1982/ PG A3)
RESERVE   1982      90,718 TONNES
   COMMENTS (0 8% W (RANGE OF 0 8% TO 1 0%))
   REFERENCE (N  MINER NOV 25 1982/ PG A3)

MAP(S) (GEOL P361 ODM/GEOL F161 BIBL 2)

ARMBRUST,G A  1969
      HYDROTHERMAL ALTERATION OF A BRECCIA PIPE DEPOSIT
      TRIBAG MINE BATCHAWANA BAY ONTARIO/ ECON GEOL VOL
      64/ PG 551-583
BLECHA,M  1965
      GEOLOGY OF THE TRIBAG MINE/ CAN INST MINING MET
      TRANS VOL 68/ PG 321-326/ *AC*
BLECHA,M  1969
      THE ORIGIN OF THE BRETON BRECCIA BATCHAWANA AREA
      ONTARIO/ UNPUBLISHED PHD THESIS MCGILL UNIVERSITY
      1969
BLECHA,M  1974
      BATCHAWANA AREA-A POSSIBLE PRECAMBRIAN PORPHYRY
      COPPER DISTRICT/ CAN INST MINING MET BULL/ VOL 67
      NO 748/ PG 71-78/ *AC*
GIBLIN,P.E  1965
      RECENT EXPLORATION AND MINING DEVELOPMENT IN THE
      BATCHAWANA AREA OF ONTARIO/ CAN MINING JOUR APRIL/
       PG 77-80/ *AC*
SHKLANKA,R  1969
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 80/ *CG*
----
      / ODM RESIDENT GEOLOGISTS FILES/ SSM-247 TO 253/
      -835/-894


41-423

TRIBAG MINE-BRETON BRECCIA
CU(3) AG(3) AU(3) MO(7) ZN(8) PB(8)

41/N/02  47 05 09   084 30 30   NICOLET TP
GEOLOGICAL PROVINCE (SUPERIOR PROVINCE)
ENTITY CODED (C)  COMMENTS (SHAFT/ W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (008624)  NMI NUMBER (041/N/02/CU/005)

CU DEPOSIT TYPE (PORPHYRY)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (STOCKWORK/BRECCIA PIPE)
GEOLOGY (BRECCIA PIPE WITH QTZ-CARBONATE-SLPD MATRIX)

REMARKS (3 OR 4 MAJOR ORE ZONES/ SEE ALSO NMI 41 N 2 CU 32)
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Appendix 1 (cont.)

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TYPE (PORPHYRY)

SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (ARCHEAN GRANITES/ARCHEAN METAVOLCANIC ROCKS)
ORE MNRLS (CHALCOPYRITE/PYRITE/SPHALERITE/GALENA/PYRRHOTITE/
          MARCASITE/MOLYBDENITE/SCHEELITE)
GANGUE (QUARTZ/CALCITE/BARITE/OTHER)
REL TO NIP.DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ECON GEOL VOL 84/PG 551-583)
COMMENTS (BRETON PIPE 1300FT LONG/400FT WIDE AT SURFACE/
          WIDENS SLIGHTLY W DEPTH/DDH-2178FT)

RESERVE:  1968      2,267,981 TONNES 1 570% CU
   COMMENTS (BRETON BRECCIA/ SOME AG)
   REFERENCE (NMI)
RESERVE:  JUL/1985      2,993,709 TONNES 1 750% CU
   COMMENTS (BRETON BRECCIA)
   REFERENCE (CAN MIN JOUR/ V 87 NO 4/ PG 78)
RESERVE:  DEC/1987      87,632 TONNES 1 780% CU
   COMMENTS (BRETON BRECCIA/RECOVERABLE MOS)
   REFERENCE (NMI)

MAP(S) (GEOL P381 ODM/GEOL FIG 3 BIBL4)

ARMBRUST,E.A. 1969
      HYDROTHERMAL ALTERATION OF A BRECCIA PIPE DEPOSIT
      TRIBAG MINE BATCHAWANA BAY ONTARIO/ ECON GEOL VOL
      64/ PG 551-583
BLECHA,M  1985
      GEOLOGY OF THE TRIBAG MINE/ CAN INST MINING MET
      TRANS VOL 88/ PG 321-326/ *AC*
BLECHA,M  1988
      THE ORIGIN OF THE BRETON BRECCIA BATCHAWANA AREA
      ONTARIO/ UNPUBLISHED PHD THESES MCGILL UNIVERSITY
      1988
BLECHA,M  1974
      BATCHAWANA AREA-A POSSIBLE PRECAMBRIAN PORPHYRY
      COPPER DISTRICT/ CAN INST MINING MET BULL VOL 67
      NO 748/ PG 71/ *AC*
GIBLIN,P.E.  1988
      RECENT EXPLORATION AND MINING DEVELOPMENT IN THE
      BATCHAWANA AREA OF ONTARIO/ CAN MINING JOUR APRIL/
       PG 77-80/ *AC*
SHKLANKA,R.  1968
      COPPER NICKEL LEAD AND ZINC DEPOSITS OF ONTARIO/
      ODM MINERAL RESOURCES CIRCULAR NO 12/ PG 80/ *CC*
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      / ODM RESIDENT GEOLOGIST FILES/ SSM-247 TO -253/
      -635/ -884


41-426

TRIBAG-EAST BRECCIA ZONE
CU(2) MO(3) AG(8)

41/N/01  47 05 31   084 28 43   NICOLET TP
GEOLOGICAL PROVINCE (SUPERIOR PROVINCE)
ENTITY CODED (S)  COMMENTS (ADIT/ W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (008824)  NMI NUMBER (041/N/02/CU/033)

CU DEPOSIT TYPE (PORPHYRY)
CU DEPOSIT STATUS (PROSPECT)
CANMINDEX DEPOSIT TYPE (STOCKWORK/BRECCIA PIPE)
GEOLOGY (BRECCIA ZONE AT CONTACT OF GRANITE & METAVOLC RKS)

REMARKS (SEE ALSO NMI 41 N 1 CU 7)

TYPE (PORPHYRY)

SIZE (100,000 - 1,000,000 TONNES CONTAINED CU)
HOST (ARCHEAN METAVOLCANIC ROCKS/ARCHEAN GRANITES)
ORE MNRLS (CHALCOPYRITE/PYRITE/MOLYBDENITE)
GANGUE (QUARTZ/CARBONATE)
REL TO NIP.DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (CIM BULL VOL 67/NO 748)
COMMENTS (ZONE 2000FT LONG/1000FT WIDE/DEPTH UNKNOWN)

RESERVE:  1974      113,386,092 TONNES 0 130% CU
   0.024% MO
   COMMENTS (MINOR BUT RECOVERABLE AG)
   REFERENCE (CIM BULL/ VOL 67 NO 748/ PG 71)
RESERVE:  1974      3,878,214 TONNES 0.270% CU
   0.024% MO
   COMMENTS (HIGHER GRADE ZONE)
   REFERENCE (CIM BULL/ VOL 67 NO 748/ PG 71)

MAP(S) (GEOL P381 ODM/GEOL FIG 3 BIBL 3)

BLECHA,M  1985
      GEOLOGY OF THE TRIBAG MINE/ CAN INST MINING MET
      BULL VOL 58/ PG 1077-1082/ *AC*
GIBLIN,P.E.  1988
      RECENT EXPLORATION AND MINING DEVELOPMENT IN THE
      BATCHAWANA AREA OF ONTARIO/ CAN MINING JOUR APRIL/
       PG 77-80/ *AC*
BLECHA,M  1974
      BATCHAWANA AREA-A POSSIBLE PRECAMBRIAN PORPHYRY
      COPPER DISTRICT/ CAN INST MIN MET BULL/ VOL 67 NO
      748/ PG 71/ *AC*


41-424

TRIBAG MINE-WEST BRECCIA
CU(3) AG(3) AU(8) W(8) PB(8) ZN(8)

41/N/02  47 04 51   084 30 38   TOWNSHIP 28 RANGE 13
GEOLOGICAL PROVINCE (SUPERIOR PROVINCE)
ENTITY CODED (S)  COMMENTS (ADIT/ W PEARSON VERIFIED 1977)
CANMINDEX NUMBER (008824)  NMI NUMBER (041/N/02/CU/005)

CU DEPOSIT TYPE (PORPHYRY)
CU DEPOSIT STATUS (PAST PRODUCER)
CANMINDEX DEPOSIT TYPE (STOCKWORK/BRECCIA PIPE)
GEOLOGY (BRECCIA PIPE WITH QTZ-CARBONATE-SLPD MATRIX)

TYPE (PORPHYRY)

SIZE (10,000 - 100,000 TONNES CONTAINED CU)
HOST (ARCHEAN GRANITES/ARCHEAN METAVOLCANIC ROCKS)
ORE MNRLS (CHALCOPYRITE/PYRITE/SPHALERITE/GALENA/PYRRHOTITE/
          MARCASITE/MOLYBDENITE/SCHEELITE)
GANGUE (QUARTZ/CALCITE/BARITE/OTHER)
REL TO NIP DIABASE (NO OBVIOUS RELATIONSHIP TO DIABASE/GABBRO)
SOURCE (ECON GEOL VOL 84/PG 551-583)
COMMENTS (WEST BRECCIA 2000FT LONG/700FT WIDE AT SURFACE)

RESERVE:  DEC/1971      429,688 TONNES 1 600% CU
   COMMENTS (BRETON & WEST BRECCIAS)
   REFERENCE (NMI)
RESERVE:  DEC/1972      156,307 TONNES 1 420% CU
   COMMENTS (BRETON & WEST BRECCIAS)
   REFERENCE (NMI)

MAP(S) (GEOL P381 ODM/GEOL 2251 ODM)

BLECHA,M  1974
      BATCHAWANA AREA A POSSIBLE PRECAMBRIAN PORPHYRY
      COPPER DISTRICT/ CAN INST MIN MET BULL/ NO 748
      VOL 67/ *AC*
BLECHA,M  1985
      GEOLOGY OF THE TRIBAG MINE/ CAN INST MINING MET
      BULL VOL 58/ PG 1077-1082/ *AC*
PEARSON,W.N  1978
      COPPER METALLOGENY NORTH SHORE REGION OF LAKE
      HURON/ GSC PAPER 78-1A/ PG 303/ *I*
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MAPS NOT

FILMED

CARTES

OMISES

POOR
QUALITY
ORIGINAL